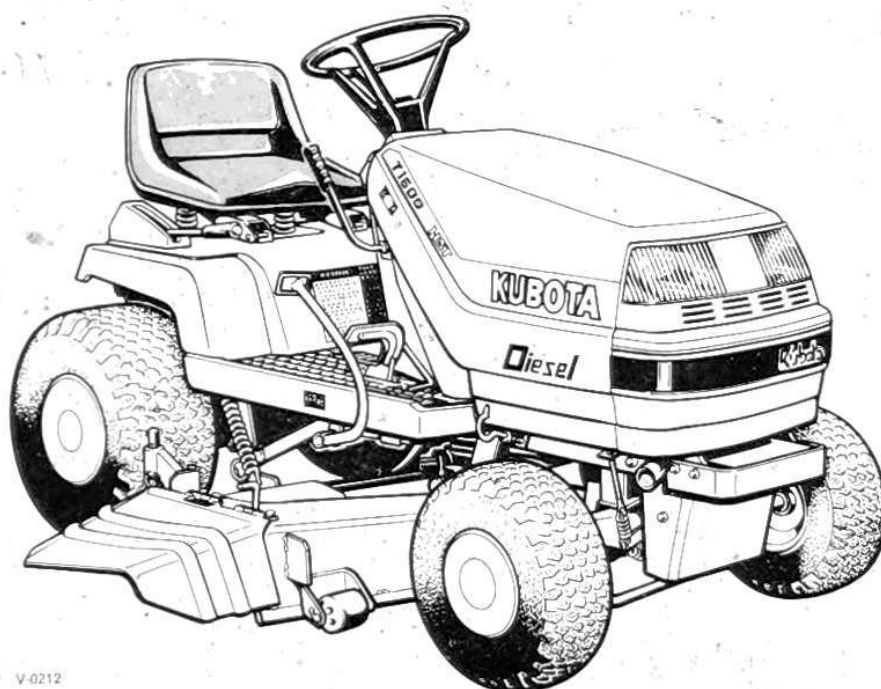


OPERATOR'S MANUAL

KUBOTA LAWN TRACTOR

MODEL T1600H



V-0212

READ AND SAVE THIS BOOK

Kubota

ABBREVIATION LIST

Abbreviations	Definitions
2WD	Two Wheel Drive
API	American Petroleum Institute
ASAE	American Society of Agricultural Engineers, USA
ASTM.	American Society for Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
HST	Hydrostatic Transmission
m/s	Meters per Second
PT	Permanent Type (=Ethylene glycol anti-freeze)
PTO	Power Take Off
ROPS	Roll-Over Protective Structures
rpm	Revolutions Per Minute
r/s	Revolutions Per Second
SAE	Society of Automotive Engineers
SMV	Slow Moving Vehicle
SPT	Semi-Permanent Type
UDT	KUBOTA UDT fluid (Transmission-hydraulic fluid)

FOREWORD

You are now the proud owner of a KUBOTA TRACTOR.

This tractor is a product of KUBOTA's quality engineering and manufacturing; It is made of the finest materials and under rigid quality control system. It will give you long, satisfactory service. To obtain the best use of your mower, please read this manual carefully. It will help you become familiar with the operation of the mower and contains many helpful hints about mower maintenance. It is KUBOTA's policy to utilize as quickly as possible every advance in our research. The immediate use of new techniques in the manufacture of products may cause some small parts of this manual to be outdated. KUBOTA distributors and dealers will have the most up-to-date information.

Please do not hesitate to consult with them.



SAFETY FIRST

This symbol, the industry's "Safety Alert Symbols", is used throughout this manual and on the machine's safety labels to warn of the possibility of personal injury. Read these instructions carefully, it is essential that you read the instruction and safety precautions before you attempt to assemble or use this unit.

CONTENTS

A Safe operation	1
1. Servicing of Tractor	6
2. Specifications	7
3. Instrument Panel and Controls	8
3.1 Instrument Panel	8
3.2 Controls	9
4. Mower Mounting	12
4.1 Pre-Assembly	12
4.2 Setting up the Mower	12
4.3 Mounting to the Machine	13
5. Operating Instructions	15
5.1 Pre-Start Checks	15
5.2 Operating the Engine	15
5.3 Operating the Machine	16
5.4 Operating Mower	17
5.5 Adjusting Cutting Height	17
5.6 Check during Operating	18
6. Maintenance	19
6.1 Daily Check	19
6.2 Lubricants	19
6.3 Maintenance Check List	20
7-A. Check and Maintenance (Machine)	21
7.1 Fuel	21
7.2 Engine Oil	23
7.3 Hydrostatic Transmission Fluid	24
7.4 Oiling and Greasing Point	24
7.5 Radiator	25
7.6 Air Cleaner	27
7.7 Battery	28
7.8 Tire Pressure	29
7.9 Fuse	29
7.10 Testing Safety Systems	30
7-B. Check and Maintenance (Mower)	31
7.1 Check and Maintenance	31
7.2 Blade Replacement	32
7.3 Belt Replacement	32
8. Adjustments	33
8.1 Fan Drive Belt Tension	33
8.2 Brake	33
8.3 Front PTO Belt Tension	34
8.4 Tightening Torque Chart	34
9. Troubleshooting	35
9.1 Battery Troubleshooting	35
9.2 Machine Troubleshooting	35
9.3 Engine Troubleshooting	36
9.4 Mower Troubleshooting	37
10. Long-Term Storage	38
11. Lubricant Specifications	39
12. Wiring Diagram	40



SAFE OPERATION

Careful operation is your best insurance against an accident. Read this section carefully before operation. All operators, no matter how experienced they may be should read this and other related manuals before operation or any implement attached to it. It is the owner's obligation to instruct all operators in safe operation.

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

1. BEFORE OPERATING

- (1) Know your equipment and its limitations. Read, understand and follow all instructions in this manual before attempting to start and operate the machine.
- (2) Know the controls and how to stop quickly.
- (3) Pay special attention to the safety labels on the machine and mower.
- (4) The exhaust gas from the muffler is very hot. To prevent fire, do not expose dry grass, mowed grass, oil and any other combustible materials to exhaust gas. Use a spark arrester where required. Also keep the engine and muffler clean all the time.
- (5) Never wear loose, torn, or bulky clothing. It may catch on moving parts or controls, leading to the risk of accident. Use safety helmet, safety boots or shoes, eye and hearing protection, gloves, etc.
- (6) Do not operate machine or any implement attached to it while under the influence of alcohol, drugs, or other substances or while fatigued.
- (7) Check brakes, clutch, and other mechanical parts for faulty adjustment and wear. Replace worn or damaged parts promptly. Check the tightness of all nuts and bolts regularly. (For further details, see MAINTENANCE AND ADJUSTMENTS, P.19~34)
- (8) Keep the machine and attachments in good operating condition and keep safety devices in place and in proper working condition.
- (9) Keep all shields and guards in place. Replace all missing or damaged items for your safety.
- (10) Never allow any bystanders around or near machine during operation.
Be sure the area is clear of other people before mowing.
Stop machine if anyone enters the area.
- (11) Clear the work area of objects such as rocks, toys, wires, etc., which could be picked up and thrown.
- (12) Before allowing other people to use your machine, explain how to operate and have them read this manual before operation.

- (13) Never allow passengers or non-qualified operators on the machine at any time. You must operate the machine from the seat only.
- (14) Keep your machine clean. Dirt, grease, and trash accumulations contribute to fires or lead to personal injury.
- (15) Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
Check the mower blade mounting bolts for proper tightness at frequent intervals.
- (16) Use only implements recommended by KUBOTA. Use proper ballast to front or rear of machine to reduce the risk of upsets. Follow the "safety operation" procedures, specified in the manuals included with equipment.
- (17) Follow the maintenance recommendations. See "Maintenance and Lubrication".
- (18) It is recommended that your machine be thoroughly inspected at least once a year by an authorized KUBOTA Dealer.
- (19) This machine is equipped with many safety devices. Do not attempt to remove or alter them.

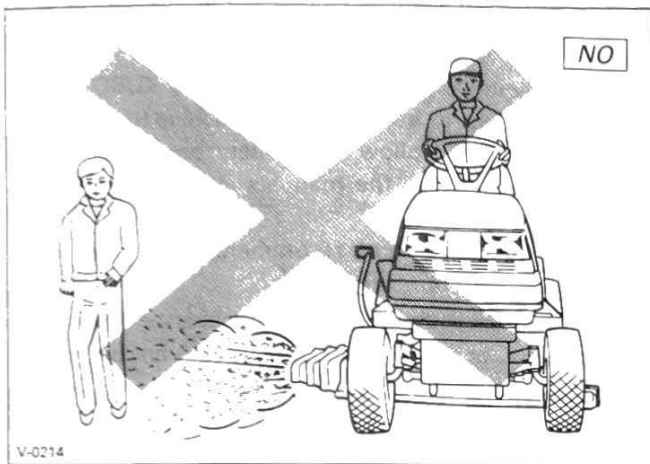
2. OPERATING

◆ Starting

- (1) Never start engine or operate levers from anywhere other than the seat.
- (2) Before starting the engine, make sure that all levers (including auxiliary control levers) are in their neutral positions, that the parking brake is engaged, and that both the mower clutch and the Power Take-Off (PTO) are disengaged.
- (3) Do not start engine by shorting across starter terminals or by by-passing the safety start switch. Machine may start and move if normal starting circuitry is bypassed.
- (4) Do not operate or idle engine in a bad ventilated area. Exhaust contains poisonous carbon monoxide, a colorless and odorless gas.
- (5) Do not "ride" the brake pedal. Use brake for stopping only.

◆ Working

- (1) Watch where you are going at all times. Watch for and avoid obstacles. Be alert near trees and other obstructions.
- (2) When working in groups, always let others know what you are doing ahead of time.
- (3) Never try to get on or off a moving machine.
- (4) When using any attachments, never direct discharge of material toward bystanders. Do not allow anyone near the attachments while in operation.
Do not mow when bystanders are present in the mowing area.

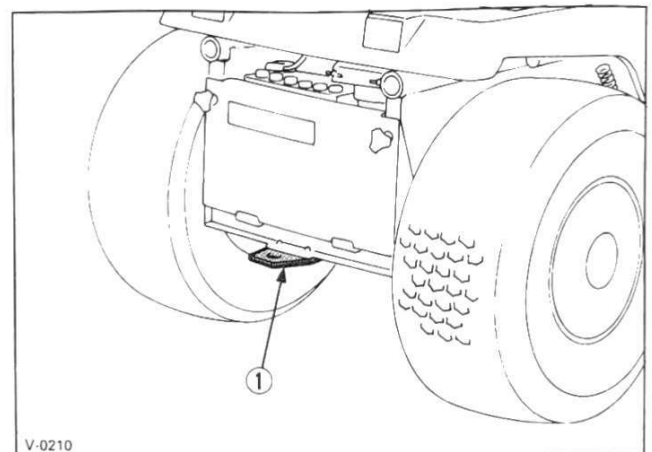


- (5) To reduce fire hazards, keep the engine exhaust area free of grass or leaves.
- (6) Slow down before turning.
- (7) Turn off blades when not mowing.
- (8) Mow only in daylight or in good artificial light.
- (9) Be sure rotating blades and engine are stopped and the key is removed before placing hands or feet near blade.
- (10) Do not make cutting height adjustments from the operator's seat.
- (11) Shut the engine off and wait for all movement to stop before removing grass catcher or unclogging chute.
- (12) Know what is behind you and disengage power to mower before backing up. Do not mow while in reverse unless absolutely necessary and only after observation of the entire area behind the mower.
- (13) Always inspect the mower for damage after striking a foreign object.
Repair or replace any damaged parts before re-starting.
- (14) Use only implements recommended in this manual. Use proper ballast to front or rear of machine to reduce the risk of upsets. Follow the "safe operation" procedures specified in the manuals included with the equipment.
- (15) Do not operate the mower without either the entire grass catcher or the guard in place.
Be aware of the mower discharge direction and do not point it at anyone.
- (16) Watch for traffic when operating near or crossing roadways.

- (17) Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove the key before dismounting.
- (18) Do not operate where machine could tip or slip. Do not operate near ditches, holes, embankments, or other terrain which may collapse under the machine's weight. The risk of machine tip-over is even higher when the ground is loose or wet.

◆ Pulling loads

- (1) Use extra care when pulling loads.
To reduce the risk of serious personal injury or death due to a machine tip-over.
 - a) Pull only from the hitch. Never attach loads to the axle housing or any other point above hitch.
 - b) Limit loads to those you can safely control.
 - c) Do not turn sharply. Use care when backing.
 - d) Use front ballast or wheel weights when suggested in this operator's manual.
- (2) This machine is equipped with many safety devices. Do not attempt to bypass or enable them.



① Hitch

◆ Slope operation

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

DO

- (1) Mow up and down slopes, not across to avoid machine tip-over. Stay off hills and slopes too steep for safe operation.
- (2) Remove obstacles such as rocks, tree limbs, etc.
- (3) Stay alert for holes in the terrain and other hidden hazards. Keep away from drop-offs. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- (4) Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- (5) Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.

- (6) Use extra care with grass catchers or other attachments. Empty the grass bags when they are half full. The weight of full grass may cause the machine to tip over.
- (7) Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
- (8) Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- (9) If machine stops going uphill, disengage PTO and back slowly down.
- (10) Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tip-over or loss of control.
- (11) Use special caution when changing direction on slopes.

DO NOT

- (1) Do not turn on slopes unless necessary and then turn slowly and gradually downhill, if possible.
- (2) Do not mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- (3) Do not mow on wet grass. Reduced traction could cause sliding.
- (4) Do not try to stabilize the machine by putting your foot on the ground.
- (5) Do not use grass catcher on steep slopes.
- (6) Do not stop or start suddenly when going uphill or downhill.
- (7) Never "freewheel". Disengaging the clutch or shifting into neutral while descending a slope could lead to a loss of control.

◆ Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.

- (1) Keep children out of the mowing area and under the watchful care of another responsible adult.
- (2) Be alert and turn machine off if children enter the area.
- (3) Before and when backing, look behind and down for small children.
- (4) Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
- (5) Never allow children to operate the machine, even under adult supervision.
- (6) Use extra care when approaching blind corners, shrubs, trees, or other obstructions that might hide children from sight.

◆ Stopping

- (1) Make sure that the machine has come to a complete stop before dismounting.
- (2) Before dismounting, disengage the PTO, lower all implements, place all control levers in their neutral positions, apply parking brake, turn off the engine and remove the key switch.
- (3) Do not park the machine on a steep incline and park on relatively flat areas.

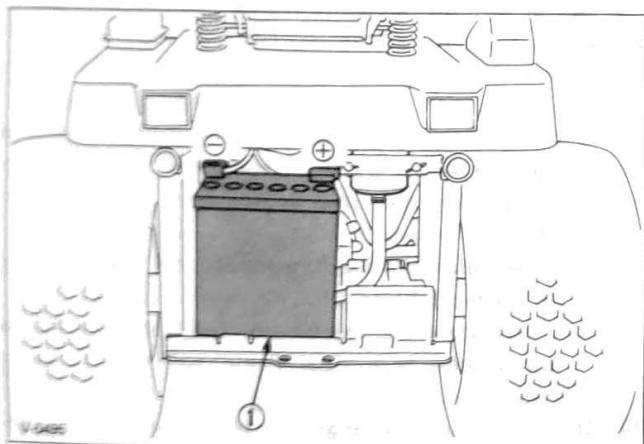
3. TRANSPORTING

- (1) Disengage power to attachment(s) when transporting or not in use.
- (2) Do not tow this machine. Use a suitable truck or trailer when transporting on public roads.
- (3) It is recommended that this machine not be used on public roads.
- (4) Use extra care when loading or unloading the machine into a trailer or truck.

4. SERVICING

- (1) Before servicing the machine, park the machine on a firm, level surface, place the gear shift lever in neutral, set the parking brake, stop the engine and remove the key.
- (2) Never make adjustments or repairs with the engine running.
- (3) Disengage power to attachment(s), stop the engine and remove the key before making any repairs or adjustments.
- (4) Allow the machine to cool off before servicing the engine, muffler, etc. Keep machine free of grass, leaves, or other debris build-up.
- (5) Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
 - a) Use only an approved container.
 - b) Never remove fuel cap or refuel with the engine running. Allow engine to cool before refueling. Do not smoke while refueling or when standing near fuel.
 - c) Never refuel the machine indoors and always clean up spilled fuel or oil.
 - d) Never store the machine or fuel container inside where there is an open flame, such as in a water heater.
- (6) Do not change the engine governor setting or over-speed the engine.
- (7) Never run a machine inside a closed area.
- (8) Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- (9) Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.

- (10) Do not smoke when working around the battery. Keep all sparks and flames away from battery. The battery presents an explosion hazard because it gives off hydrogen and oxygen...especially when recharging.
- (11) Before "jumping" a dead battery, read and follow all of the instructions to help protect the alternator from damage due to extreme load changes. (See page 15) Batteries contain sulfuric acid and produce explosive gases. Follow the instructions below to prevent personal injury.
 - Wear eye and skin protection.
 - Keep sparks and flame away.
 - Always have adequate ventilation while charging or using the battery.
- (12) Keep first aid kit and fire extinguisher available at all times.
- (13) Disconnect the battery's ground cable before working on or near electric components.
- (14) To avoid sparks from an accidental short circuit, always disconnect the battery's ground cable $\ominus$ first and connect it last.
- (15) Do not attempt to mount a tire on a rim unless qualified to do so and see operator's manual thoroughly for safety.
- (16) Provide adequate support when changing wheels or the wheel tread width.
- (17) Make sure that wheel bolts have been tightened to the specified torque.
- (18) Never tamper with safety devices.
Check their proper operation regularly.
- (19) Check brake operation frequently. Adjust and service as required.



① Battery

5. STORAGE

- (1) Keep the machine and supply of fuel in locked storage and remove the ignition key to prevent children or others from playing or tampering with them.
- (2) When machine is to be stored for a long time, disconnect battery cables or remove the battery. Always remove the negative $\ominus$ cable first and reinstall the negative $\ominus$ cable last.
- (3) Do not store the machine with fuel in the tank inside a building where fumes may ignite. Allow the engine to cool before storing.
- (4) To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without adequate ventilation.
- (5) To reduce fire hazards, clean the machine thoroughly before storage. Dry grass and leaves around the engine and mufflers may ignite.

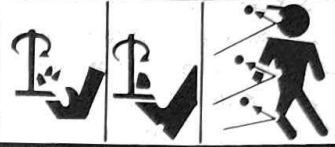
6. SAFETY LABELS

① Code No. 66001-4719-3

⚠ WARNING TO AVOID SERIOUS INJURY OR DEATH • DO NOT OPERATE ON STEEP SLOPES. • GO UP AND DOWN SLOPES, NOT ACROSS. • AVOID SUDDEN TURNS. • IF MACHINE STOPS GOING UPHILL, STOP BLADE AND BACK DOWN SLOWLY. • NEVER CARRY CHILDREN OR OTHERS. • DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND. • LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING. • KEEP SAFETY DEVICES (GUARDS, SHIELDS AND SWITCHES) IN PLACE AND WORKING. • REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE. READ OPERATOR'S MANUAL.	⚠ CAUTION TO AVOID PERSONAL INJURY • KNOW LOCATION AND FUNCTION OF ALL CONTROLS. • BEFORE STARTING ENGINE, MAKE CERTAIN PTO IS OFF, SHIFT INTO NEUTRAL AND EVERYONE IS AT A SAFE DISTANCE FROM MACHINE. • DO NOT OPERATE WHERE MACHINE COULD TIP OR SLIP. • TO REDUCE FIRE HAZARDS, KEEP THE EXHAUST WELL CLEAR OF DRY GRASS, DRY LEAVES OR OTHER COMBUSTIBLE MATERIAL. • BEFORE DISMOUNTING, DISENGAGE PTO CLUTCH, LOWER IMPLEMENT, SHIFT INTO NEUTRAL, SET PARKING BRAKE, STOP ENGINE AND REMOVE THE KEY. • THIS MACHINE IS NOT FOR STREET OR HIGHWAY USE. 66001-47193 英
---	--

③ Code No. 66071-6179-1

⚠ DANGER



DO NOT PUT HANDS OR FEET INTO MOWER WHEN ENGINE IS RUNNING

② Code No. 66071-4732-2

⚠ WARNING

TO AVOID POSSIBLE INJURY OR DEATH FROM A MACHINE RUNAWAY.

Do not start engine by shorting across starter terminals or bypassing the safety start switch.

Machine will start in gear and will move if normal starting circuitry is bypassed.

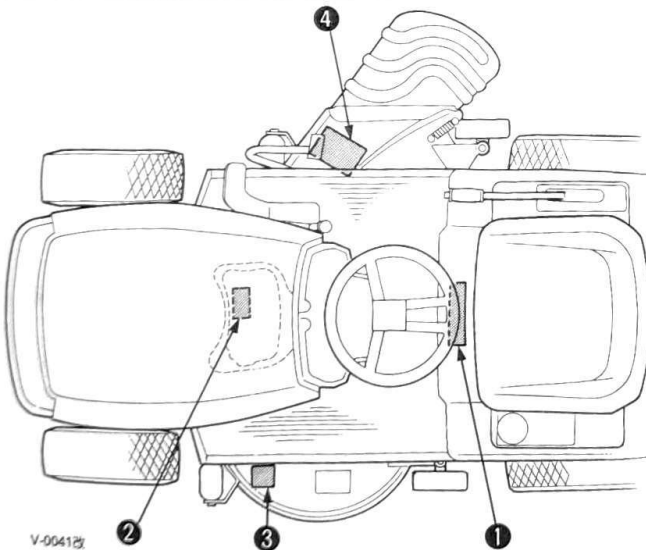
66071-47322

④ Code No. 66071-6178-1

⚠ DANGER



1. STAY CLEAR OF DISCHARGE OPENING AT ALL TIMES.
2. DO NOT PUT HANDS OR FEET INTO MOWER WHEN ENGINE IS RUNNING.
3. DO NOT OPERATE MOWER WITHOUT DISCHARGE DEFLECTOR.



CARE OF SAFETY SIGNS

- (1) Keep safety signs clean and free from obstructing material.
- (2) Clean safety signs with soap and water, followed by drying with cloth.
- (3) Replace damaged or missing safety signs with new safety signs from your KUBOTA dealer.
- (4) If a component with safety sign(s) affixed is replaced with new part, make sure new safety sign(s) are attached in same location as the replaced component.
- (5) Mount new safety signs by applying on clean dry surface pressing any bubbles to outside edge.

1. SERVICING OF TRACTOR

Your dealer is interested in the performance of your new riding mower and wants to help you get the most value from it. After reading this manual thoroughly, you will find that you can do some of the regular maintenance yourself. When in need of parts or major service, however, be sure to see your KUBOTA dealer. When in need of parts, be prepared to give your dealer the machine, engine and mower serial numbers.

Locate the serial numbers now and record them in the space provided.

KUBOTA T1600H

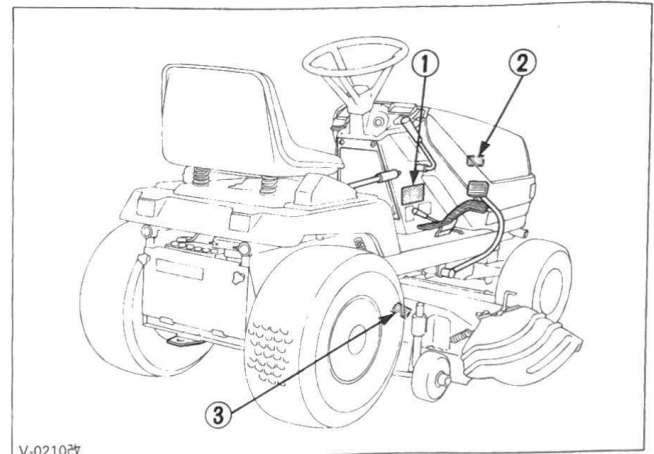
Machine Serial No. _____

Engine Serial No. _____

Mower Serial No. _____

Date of Purchase _____

(To be filled in by purchaser)



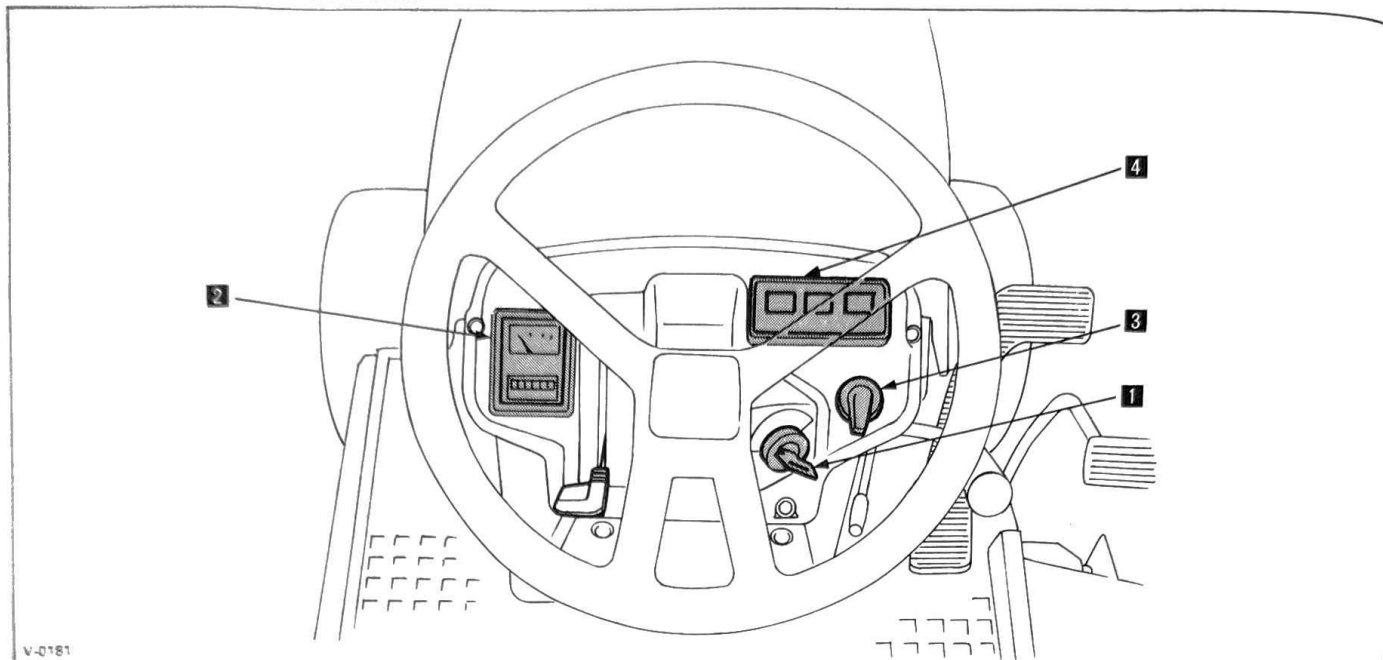
- ① Machine serial No. ③ Mower serial No.
② Engine serial No.

2. SPECIFICATIONS

Model	Model			T1600H	
	Type			Z482	
Engine	Total displacement			cm ³ (cu.in.)	479 (29.3)
	Gross horse power/RPM			kW (HP)/rpm	10.0 (13.5) / 3200
	Starter			Electric starter with battery	
	Battery			12V 35AH (at 20H.R)	
	Fuel			Diesel fuel No.1 [below -10°C (14°F)]	
				Diesel fuel No.2 [above -10°C (14°F)]	
	Fuel tank capacity			ℓ (U.S.gals.)	10.0 (2.6)
	Engine oil capacity			ℓ (U.S.qts.)	2.1 (2.2)
	Radiator coolant capacity			ℓ (U.S.qts.)	1.9 (2.0)
	Preheating system			Super glow	
Dimensions	Overall length			mm (in.)	1725 (67.9)
	Overall width			mm (in.)	1430 (56.3)
	Overall height			mm (in.)	1100 (43.3)
	Wheel base			mm (in.)	1200 (47.2)
	Tread	Front	mm (in.)	720 (28.3)	
		Rear	mm (in.)	690 (27.2)	
	Min. ground clearance			mm (in.)	130 (5.1)
	Weight (with mower)			kg (lbs)	300 (662)
Traveling system	Tire size	Front	15×6.00—6		
		Rear	20×10.00—8		
	Steering type			Manual	
	Brake			Dry disc	
	Transmission			Hydrostatic	
	Traveling speeds	Forward	km/h (mph)	0 to 9.0 (0 to 5.6)	
		Reverse	km/h (mph)	0 to 5.0 (0 to 3.1)	
	Transmission oil capacity			ℓ (U.S.qts.)	2.4 (2.5)
PTO	Direction of revolution			Clockwise viewed from rear	
	Revolution (PTO speed)			rpm	2740 (at engine 3200 rpm)
	PTO clutch			Belt tension	
Mower	Mounting method			Parallel linkage	
	Adjustment of cutting height			Gauge wheel	
	Cutting width			mm (in.)	1118 (44)
	Cutting height			mm (in.)	26 to 102 (1.0 to 4.0)
	Weight (Approx.)			kg (lbs)	55 (121)
	Number of blades			3	
	Dimensions	Total length	mm (in.)	825 (32.5)	
		Total width	mm (in.)	1430 (56.3)	
		Total height	mm (in.)	282 (11.1)	
	Discharge			Right side	
Gear box oil capacity			ℓ (U.S.qt.)	0.3 (0.3)	

3. INSTRUMENT PANEL AND CONTROLS

3.1 INSTRUMENT PANEL



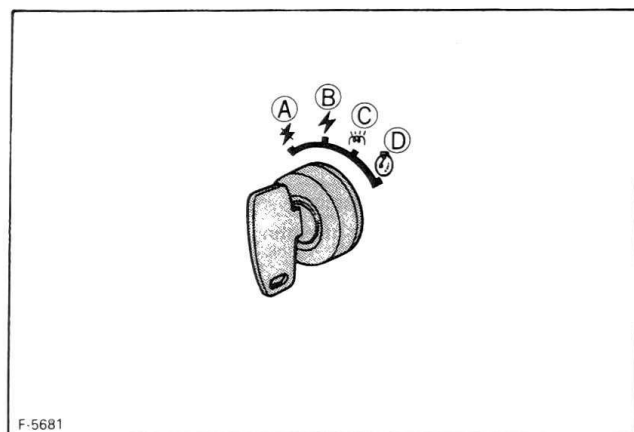
- 1 Key switch
2 Coolant temperature meter, Hour meter
3 Light switch
4 Easy checker

1 Key Switch

- ★ OFF.....The position where the key can be inserted into or removed from the key switch. [The engine stops the moment the key is turned this position.]
- ⚡ ON.....The engine keeps running.
- 🔥 Preheat.....The super glow plug is heated.
- 🕒 Start.....Depress the brake pedal fully and turn the key switch to this position to start the engine.

IMPORTANT

- Because of the safety device, the engine may not be started except when the PTO clutch is disengaged and the brake pedal fully depressed.



- A "OFF" B "ON" C "PREHEAT" D "START"

2 Coolant Temperature Meter/Hour Meter

• Hour Meter

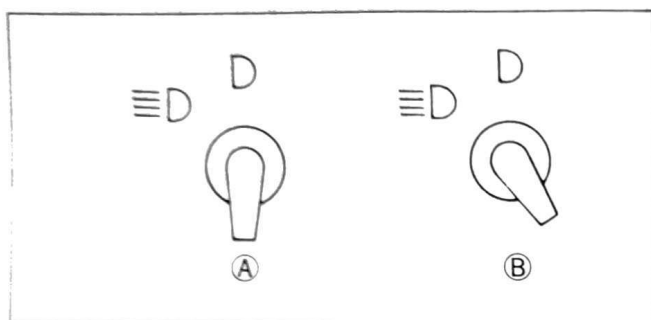
As the hour meter works electrically, it starts to work when the key switch is turned to ON.

• Coolant Temperature Meter

- (1) With the key switch at "ON", this meter indicates the temperature of the coolant. "C" for "cold" and "H" for "hot".
- (2) If the indicator reaches the "H" setting (red zone), coolant is overheated. Check the machine by referring to "Radiator" (page 25), and "Air cleaner" (page 27).

3 Light Switch

Turning the light switch counterclockwise illuminates the headlights.



A "OFF" B "ON"

4 Easy Checker



- Alarm when the electrical charge system is not functioning properly.
- Glow plug Indicator (Pre-heating Indicator)
When the key switch is in the "Preheat" position, the glow plug indicator illuminates. If the engine is preheated completely, the glow plug indicator turns off automatically.
- Alarm when the engine oil pressure is low.

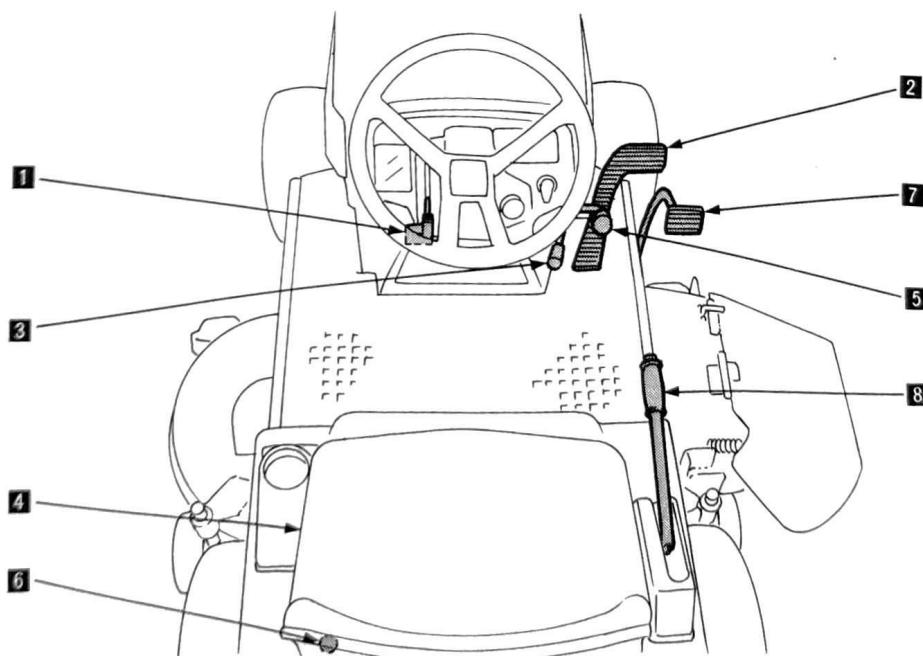
◆ How to check the Easy Checker

- (1) When the key switch is turned "ON", all the lights except the glow plug indicator illuminates. When the engine starts up, all the lights should go off.
- (2) If trouble should occur at any location while the engine is running, the warning light corresponding to that problem comes on.

IMPORTANT

- Daily checks with the Easy Checker only, are not sufficient. Always conduct daily checks carefully by referring to "Daily Checks". See page 19.

3.2 CONTROLS

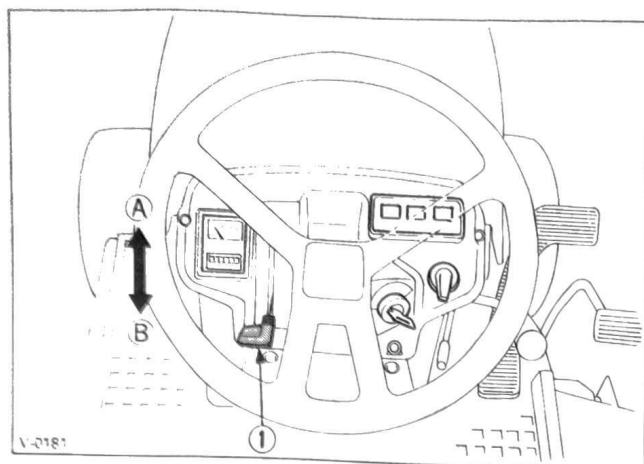


V-0184

- | | | | |
|-----------------------|----------------------|--------------------|---------------|
| 1 Throttle lever | 3 Parking brake knob | 5 PTO lever | 7 Brake pedal |
| 2 Speed control pedal | 4 Seat | 6 HST neutral knob | 8 Lift lever |

1 Throttle Lever

Moving the throttle lever backward decreases the engine speed and moving it forward increases the engine speed.



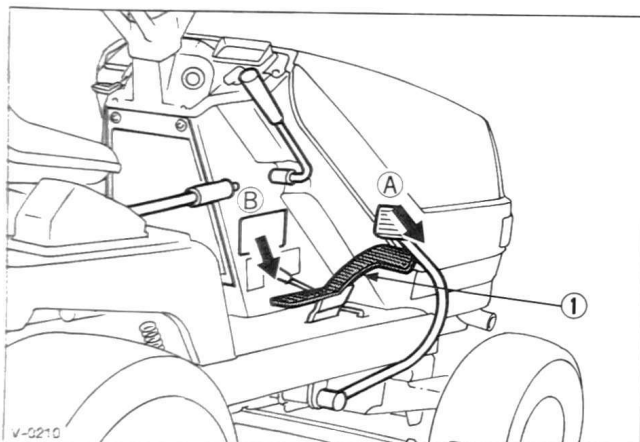
① Throttle lever A "HIGH" B "LOW" "IDLING"

2 Speed Control Pedal

Depress the speed control pedal with your right foot to move forward or backward.

NOTE

- When the parking brake is applied, the speed control pedal is locked in the neutral position.

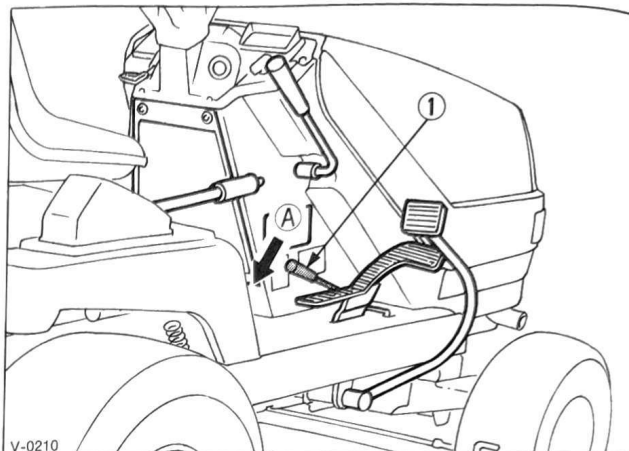


① Speed control pedal A "FORWARD" B "REVERSE"

3 Parking Brake Knob

To apply the parking brake, depress the brake pedal and pull the parking brake knob.

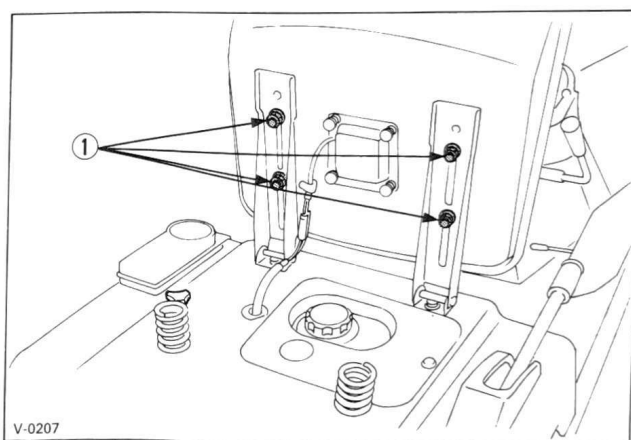
To release the parking brake, step on the brake pedal again.



① Parking brake knob A "PARKING BRAKE"

4 Seat

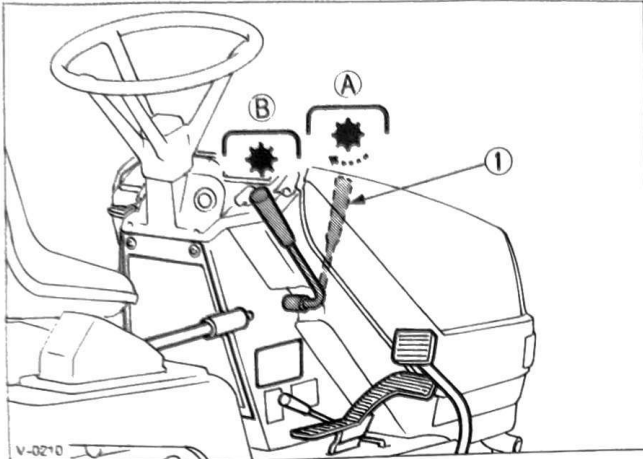
The operator's seat position can be adjusted forward and backward.



① Adjust bolt

PTO Lever

To drive the PTO, move the PTO lever to the forward position.



① PTO lever A "ENGAGE" B "DISENGAGE"

- (1) If you get off the seat while the PTO is running, the engine will stop automatically. (Seat safety control)
- (2) Before starting the engine, pull the PTO lever to the disengage position. If it is at the engaged position, the engine will not crank.

NOTE: These are built-in safety features.

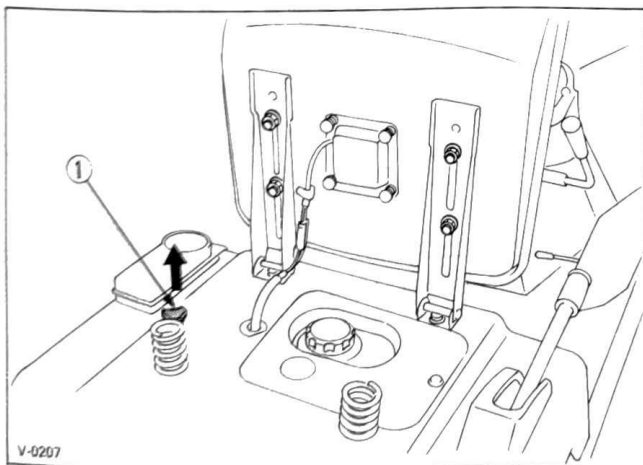
HST Neutral Knob



CAUTION

- To avoid runaway use care on inclines.

To pull machine, pull and hold HST neutral knob in direction of arrow. Release the HST neutral knob, and it will return automatically.



① HST neutral knob

IMPORTANT

- Do not tow the machine or transmission damage may occur.

How to Open the Hood

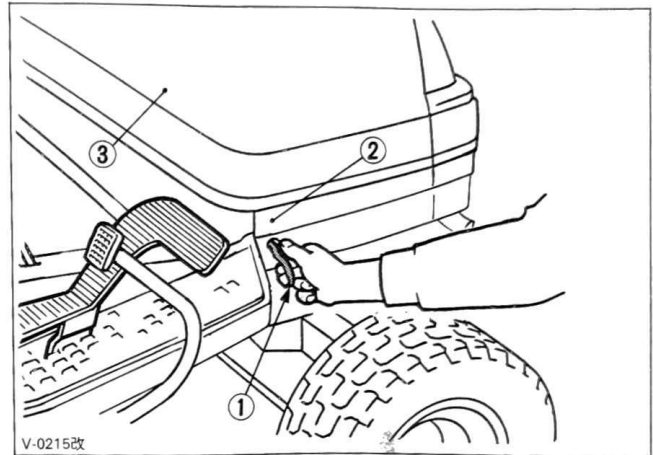


CAUTION

To avoid personal injury from contact with moving parts;

- (1) Never open the hood while the engine is running.
- (2) Do not touch muffler or exhaust pipes while they are hot; severe burns could result.

To open the hood, release the left and right hooks while pressing the skirt.



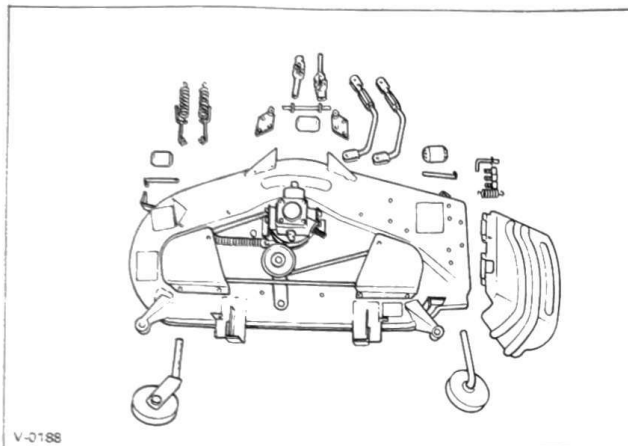
① Hook ② Skirt ③ Hood

4. MOWER MOUNTING

When this Mower was shipped, some of the parts were removed and packed separately. Read the following procedure to properly assemble the mower.

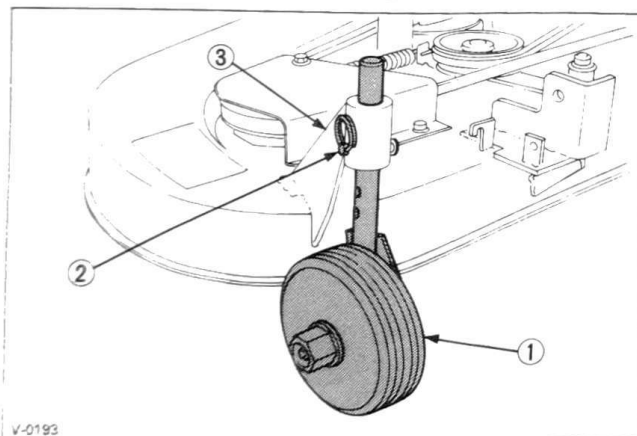
4.1 PRE-ASSEMBLY

Take out all mower components from the case and check the parts against the illustration.



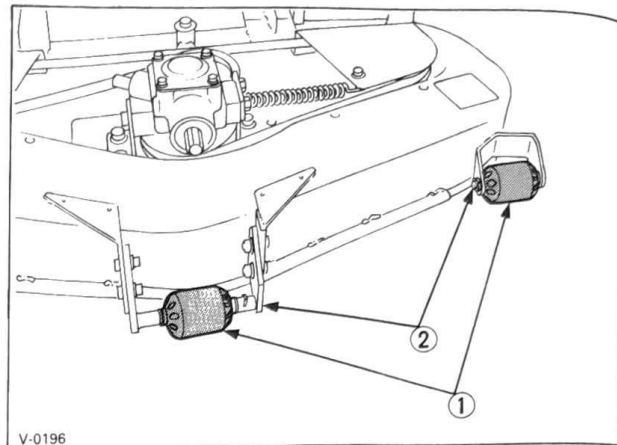
4.2 SETTING UP THE MOWER

- (1) Attach the rear gauge wheels to the arms of the deck with clevis pin and snap ring.



- ① Gauge wheel ② Clevis pin, Snap ring ③ Arm

- (2) Attach the anti-scalp roller to the deck with roller pin, plain washer and cotter pin.

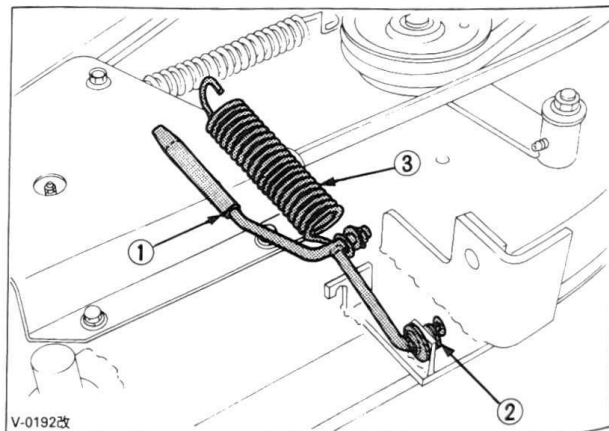


- ① Anti-scalp roller
② Roller pin, Plain washer, Cotter pin

- (3) Attach the tension lever to the deck with plain washer and cotter pin.

NOTE

- Set the spring exactly same spring hook direction as illustrated.

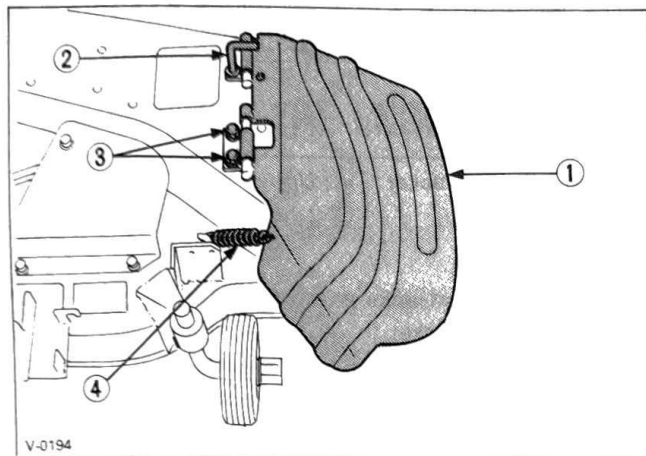


- ① Tension lever ② Plain washer, Cotter pin
③ Spring

- (4) Attach the discharge deflector and deflector stopper to the deck with M10 bolts, spring washers and nuts. Secure the spring to the discharge deflector as illustrated.

NOTE

- Deflector stopper should be set as shown for mowing operation.

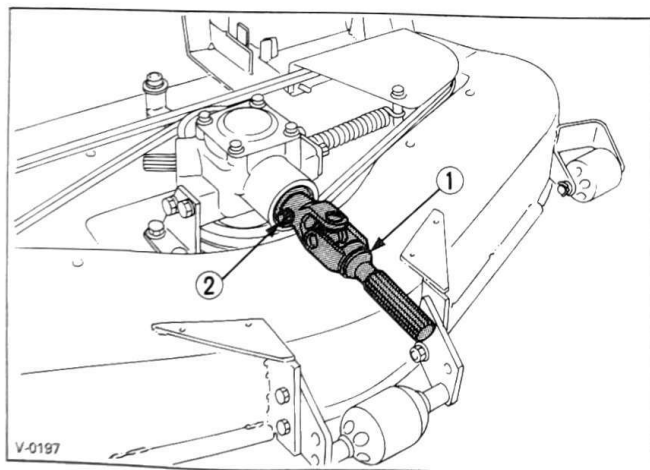


- ① Discharge deflector ③ M10 bolt
② Deflector stopper ④ Spring

- (5) Slide the universal joint (mower side), onto the shaft of the mower and secure it with bolt, nut and cotter pin.

IMPORTANT

- Spread the cotter pin completely.



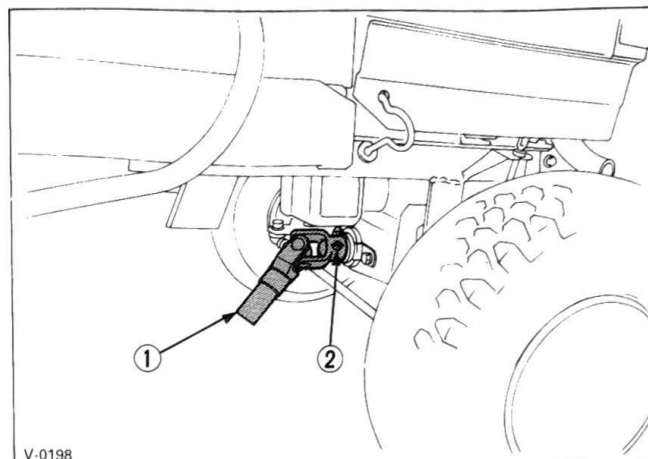
- ① Universal joint ② Bolt, Nut, Cotter pin

4.3 MOUNTING TO THE MACHINE

- (1) Slide the universal joint (machine side) onto the front PTO shaft and secure it with clevis pin, plain washer and cotter pin.

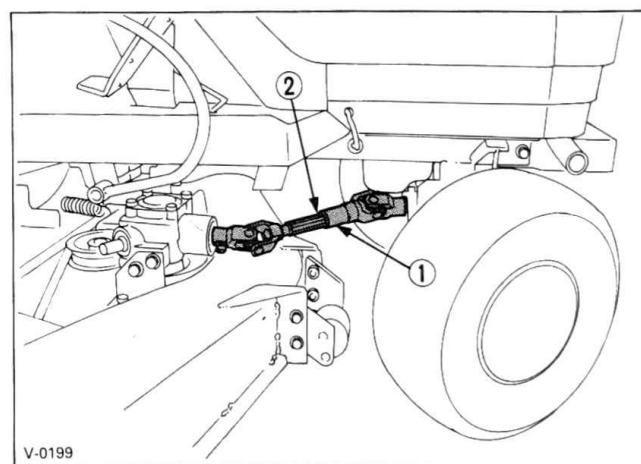
IMPORTANT

- Spread the cotter pin completely.



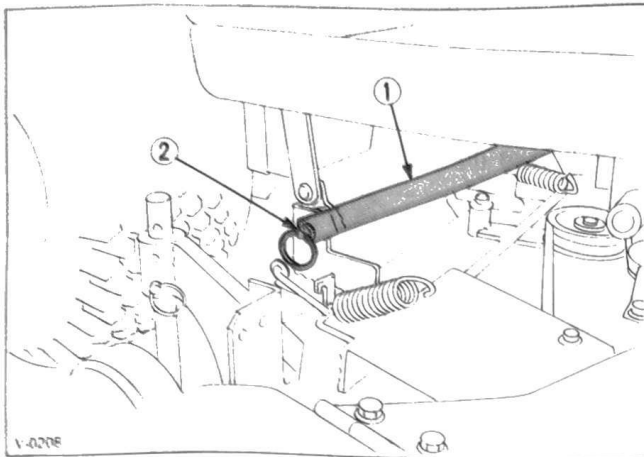
- ① Universal joint
② Clevis pin, Plain washer, Cotter pin

- (2) Put the mower under the machine from the right, and connect the universal joint with aligning the fit mark.



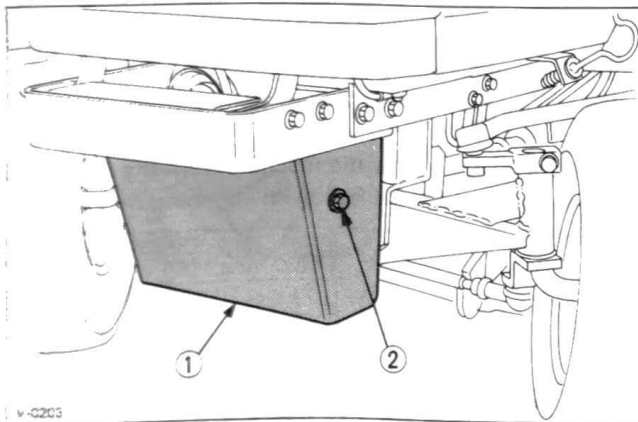
- ① Universal joint ② Fit mark

- (3) Attach the mower deck to the rear lift link with clevis pin, plain washer and snap ring.



- 1 Lift link
2 Clevis pin, Plain washer, Snap ring

- (4) Remove the bolts and front cover.

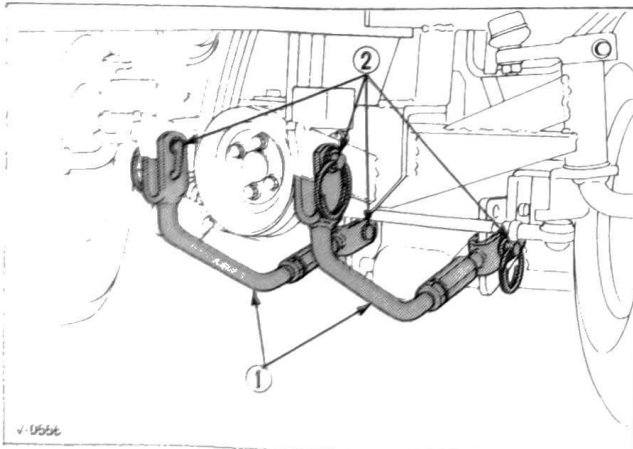


- 1 Front cover 2 Bolt

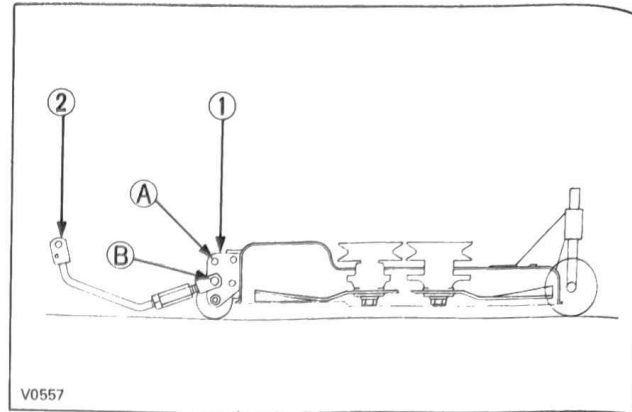
- (5) Attach the both front links to the deck with clevis pin, plain washer and snap ring.
(6) Attach the both front links to the tractor with clevis pin, plain washer and snap ring.

NOTE

- Make sure the length (L) of the front links as shown in the chart forrow.



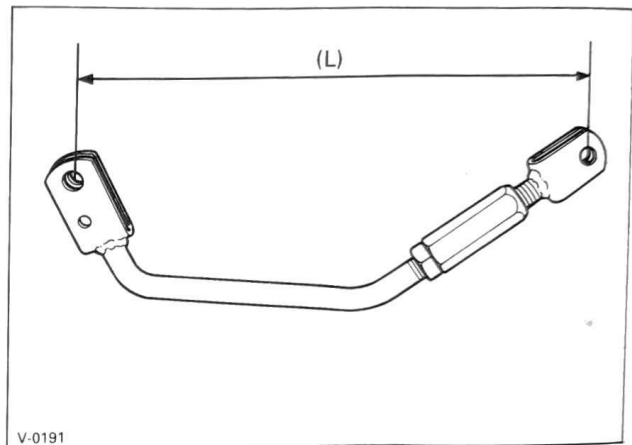
- 1 Front link 2 Clevis pin, Plain washer, Snap ring



- 1 Mower front bracket A Upper hole
2 Front link B Lower hole

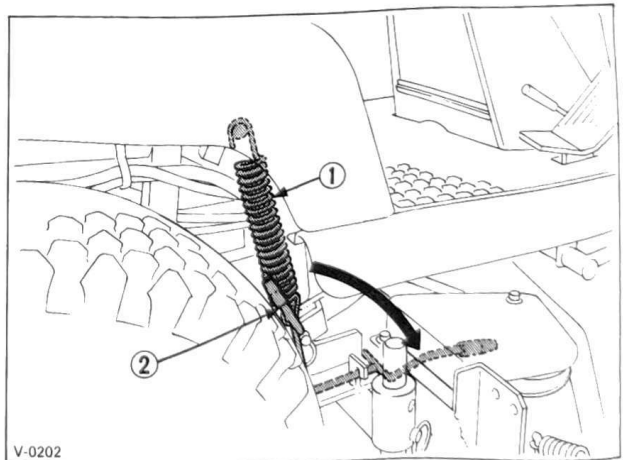
NOTE

- Be sure the front links attach to the lower holes B of mower front bracket.



(L) About 337 mm (13.3 in.)

- (7) Reattach the front cover with bolts.
(8) Hang on the spring to the machine.
(9) Set the tension lever to the mower.



- 1 Spring 2 Tension lever

NOTE

- For easier setting tension lever to the mower, lift the mower with the lift lever before setting.

5. OPERATING INSTRUCTIONS

5.1 PRE-START CHECKS

Prior starting the engine, make pre-start checks according to the Maintenance Schedule on page 19.

5.2 OPERATING THE ENGINE



CAUTION

- (1) Read "SAFE OPERATION" in the front of this manual.
- (2) Read the Safety labels located on the machine.
- (3) To avoid danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.
- (4) Always set the speed control pedal and PTO lever to the "neutral" position before starting the engine.

■ Starting

- (1) Sit on the operator's seat.
- (2) Place the PTO lever in the "disengage" position.
- (3) Place the speed control pedal in neutral position.
- (4) Set the throttle lever 1/2 of the way forward.
- (5) Insert the key into the key switch and turn clockwise one notch.
- (6) Make sure that the easy checker lights are on.
- (7) Depress the brake pedal fully.
- (8) Turn the key switch clockwise and hold it for about 5 seconds. (at the preheat position)

The glow plug indicator turns off when the preheat is completed.

For the appropriate preheating time, refer to the table below:

Temperature	Preheating Time
Over 0°C (32°F)	5 sec.
Below 0°C (32°F)	10 sec.

- (9) Turn the key switch to the start position and the starter will turn and the engine should start.
- (10) Make sure that the easy checker lights have gone off. If the light is still on, immediately stop the engine and check the remedy following the instruction of page 18.
- (11) Warm the engine by running at medium speed.

IMPORTANT

- (1) Do not turn the key switch while the engine is running.
- (2) When the temperature is below 0°C (32°F), run the engine at medium speed to warm up the lubricant of the engine and transmission for at least 10 minutes. If the machine is operated before the lubricant is warm enough, the machine life will be shortened.
- (3) Do not operate the machine under full load until it is sufficiently warmed.
- (4) Do not use starting fluid.

IMPORTANT

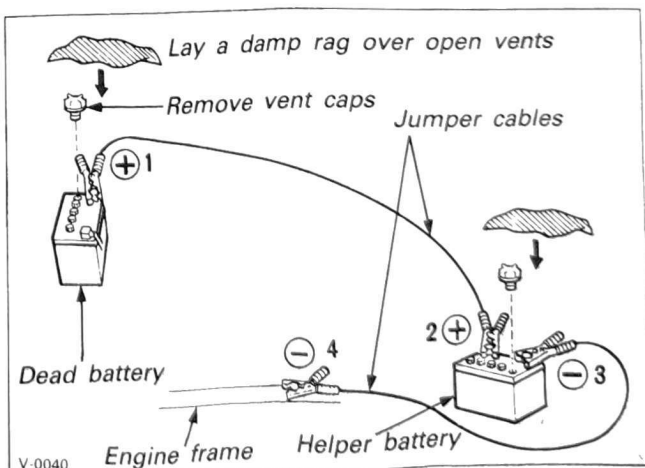
- When the ambient temperature is less than -15°C (5°F), remove the battery from the machine and store it somewhere warm until next operation.

■ Jump starting instructions and precautions

Before "jumping" a dead battery, read and follow all instructions.

If it is necessary to use jumper cables to start the machine, follow the instructions below.

- (1) Put on safety goggles and rubber gloves.
- (2) Remove the vent caps from both batteries. Cover vent holes with damp rags. Do not allow the rag to touch the battery terminals.
- (3) Connect one end of the jumper cable to the tractor battery positive ⊕ terminal and the other to the auxiliary battery positive ⊕ terminal.
- (4) Connect one end of the other cables first to the auxiliary battery negative ⊖ terminal, and the other end to the tractor starter ground terminal.
- (5) Start the helper vehicle and let its engine run for a few minutes. Start the disabled vehicle.
- (6) Disconnect the jumper cables in the exact reverse order.
- (7) Remove the damp rags. Close the vent caps firmly.



Connect cables in numerical order (1~4).

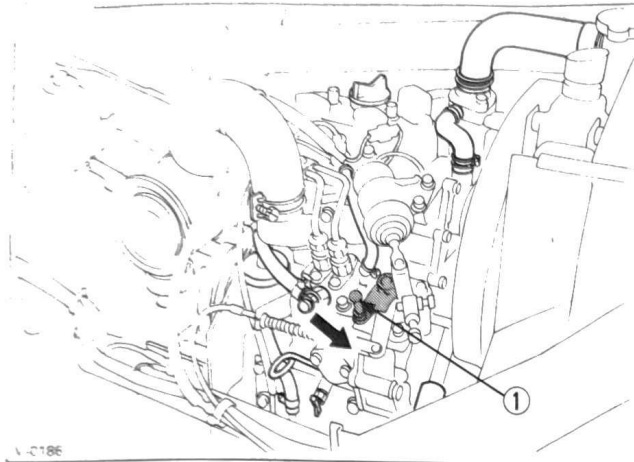
Disconnect in reverse order after use (Step (3), (4)).

■ Stopping

- (1) Slow the engine down by moving the throttle lever backward.
- (2) Turn the key switch off and remove the key from the switch.

① Stop Lever

The engine stops when the key switch is turned off. If the engine does not stop, open the hood and pull engine stop lever (Red mark) back and hold it until the engine stops. Then contact your KUBOTA dealer immediately.



① Engine stop lever

5.3 OPERATING THE MACHINE



CAUTION

- (1) Do not allow any person other than the driver to ride on the machine.
- (2) Do not drive the machine close to the edges of ditches or banks which may collapse under the weight of the machine, especially when the ground is loose or wet.
- (3) When turning the machine, be sure to reduce the travel speed by letting up on the pedal.

■ Starting

- (1) Unlock the parking brake.
- (2) Speed up the engine by moving the throttle lever forward.
- (3) Depress the speed control pedal with your right foot to move forward or backward.

IMPORTANT

- Never move the machine with the brake on.

■ Stopping

- (1) Release the speed control pedal and depress the brake pedal to stop the machine.
- (2) Slow the engine down.
- (3) Shift PTO lever to disengage position.

■ Parking

TO LOCK

Depress brake pedal pull and hold brake lever until pedal is latched.

TO UNLOCK

Depress brake pedal past lock and release.

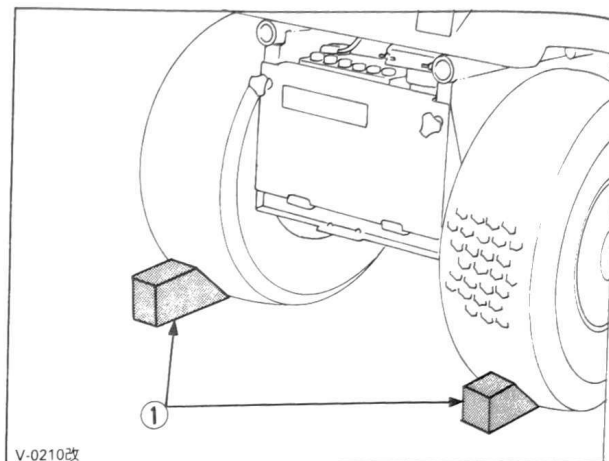


CAUTION

Before leaving the operator's position:

- (1) Set parking brake.
- (2) Lower all implements to the ground.
- (3) Shut off engine.
- (4) Remove the key from the switch.

If necessary to park on an incline, be sure to chock the wheels to prevent accidental rolling of the machine.



V-0210改

① Chocks

■ Towing

IMPORTANT

- DO NOT TOW THIS MACHINE.
- Damage to the transmission may result.

5.4 OPERATING MOWER



DANGER

- Do not operate mower without deflector shield properly bolted in place.

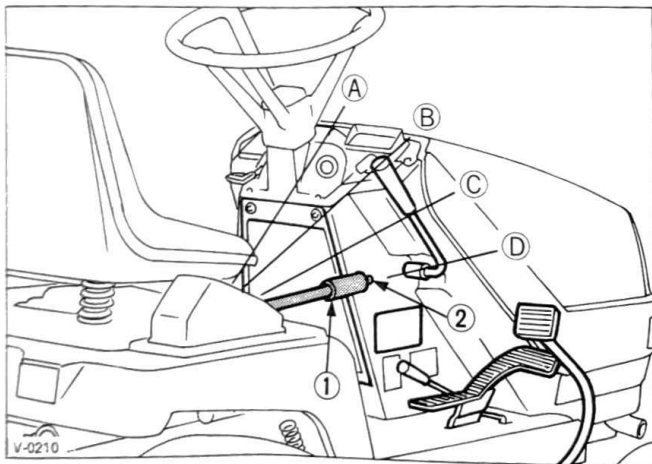


CAUTION

- (1) Clear the work area of objects which might be picked up and thrown by blades.
 - (2) Do not direct the opening of the chute at bystanders or animals. Ejected objects may cause injury. Plan your mowing carefully before starting operation.
 - (3) Keep bystanders and animals away from the mowing area.
 - (4) Be sure to disengage the PTO and sit on the operator's seat before starting the engine.
- (1) Operate at full throttle for best results. Control ground speed by using the control pedal.
 - (2) During heavy duty use, operate the machine at a slower ground speed or go over the area twice.
 - (3) Keep the mower deck and gauge wheels in the raised position when the mower is not being used.
 - (4) The mower will not cut cleanly if the ground speed is too high or if the blade speed drops due to an overload.

■ Lift Lever

The lift lever is used to raise and lower the mower. To raise the mower, push the button at the top of the lift lever, and pull the lever upward.



① Lift lever ② Button

Cutting height	
(A)	transport position
(B)	75 mm (3.0 in)
(C)	50 mm (2.0 in)
(D)	float position

- (1) To lock the lever, release the button. The lever can be locked in 4 positions.
- (2) Use the higher settings for mowing in a rough area or when mowing high grass.
- (3) The low setting is the float position and allows the mower to follow the ground contour. Use this setting for smooth lawns where short grass is desired.

5.5 ADJUSTING CUTTING HEIGHT



CAUTION

- Never operate mower in transport position.

- (1) To set the cutting height, adjust both of the rear gauge wheels as shown in the figure below. The recommended cutting height is approximately 54mm (2.0 in).

MOWER WHEEL	
CUTTING HEIGHT	
26 mm (1.0 in)	③ — A
38 mm (1.5 in)	④ — B
54 mm (2.0 in)	③ — B
63 mm (2.5 in)	② — A
78 mm (3.0 in)	① — A
89 mm (3.5 in)	② — B
102 mm (4.0 in)	① — B

- (2) Lower the mower deck by pushing the lift lever downward. This lowers the mower deck from the transport position to the operating position.
- (3) Use the higher setting for mowing in a rough area or when mowing tall grass. Lower settings should be used only for smooth lawns where short grass is desired.

5.6 CHECK DURING OPERATING

While operating, make the following checks to see that all the parts are functioning normally.

■ Coolant



CAUTION

To avoid personal injury;

- Do not remove radiator filler cap until coolant temperature is well below its boiling point. Then rotate cap slightly to the stop to relieve any excess pressure before removing cap completely.

If engine coolant temperature meter indicator moves into the red zone, stop the engine and check for the following: (Coolant temperature meter is option.)

- (1) Shortage or leakage of the coolant.
- (2) Foreign matter on the radiator net and dust and dirt between the radiator fins and tube.
- (3) Loose fan drive belt.
- (4) Internal blockage in the radiator core or hose.

■ Easy Checker

● Engine oil pressure light

The pressure light signals the operator that the engine oil pressure is below the prescribed level. If the light goes on during operation, immediately stop the engine and check the following:

- (1) The level of the engine oil. (See page 23)
- (2) The conditions of the lubrication system.

● Battery charge light

The charge light signals to the operator that the alternator is not charging the battery.

If the light goes on during operation, immediately stop the engine and check for:

- (1) Wiring failure.
- (2) Connection failure of alternator and regulator.
- (3) Alternator drive belt failure.

■ Fuel

Do not allow the fuel tank to empty completely.

Doing so will allow air to enter into the fuel system. Should this happen, the fuel system must be bled. (See page 21)

■ Exhaust Fumes

- (1) Exhaust Fumes are colorless at normal output drive.
- (2) If the color of exhaust gas becomes dark often during driving, the engine may be overloaded. This will result in excessive wear to the engine, drivetrain, and tires. Operate in a lower speed or decrease load placed on machine.

■ Urgent Stop

Should the following take place, immediately stop the engine.

- (1) The engine suddenly slows down or speeds up.
 - (2) Unusual noises are suddenly heard.
 - (3) Exhaust suddenly become very dark.
 - (4) The engine oil pressure light illuminates while operating.
 - (5) The battery charge light goes on while operating.
- For checks and remedies in the above situations, consult your KUBOTA dealer.

6. MAINTENANCE

6.1 DAILY CHECK

To prevent trouble from occurring, it is important to know the conditions of the machine well. Check before starting.



CAUTION

- Be sure to check and service the machine on a level surface with the engine shut off and the parking brake on.

	No.	Check item	Reference page		No.	Check item	Reference page
Walking around the machine	1	The tire, pressure, wear and damage	29	Turning the key switch on	1	Performance of the easy checker light	9,18
	2	Oil and water leak	—		2	Headlights	—
	3	Engine oil level	23	Starting the engine	1	Color of the exhaust fumes	18
	4	Transmission fluid level	24		2	Safety start switch and seat safety control. If either of these do not operate properly, contact your KUBOTA dealer immediately.	30
	5	Fuel level	21		3	Check for abnormal noise and vibration	—
	6	Coolant level in the recovery tank	25	Mower	1	Make sure blade capscrews are tight	32
	7	Damage of machine body, tightness of all bolts and nuts	—		2	Check blades for wear or damage	32
	8	Radiator screen	27		3	Check all hardware	—
	9	HST fan cover	—		4	Make sure all pins are in place	—
	10	Cooling air intake screen	27	Others	1	Check the areas where previous trouble was experienced.	—
	11	Brake play	33				
	12	Oiling	24,31				
	13	Battery electrolyte level	28				
While sitting in the operator's seat	1	Speed control pedal Brake pedal	—				
	2	Parking brake	—				
	3	Steering wheel	—				

6.2 LUBRICANTS

To prevent serious damage to lubricating systems, use genuine KUBOTA fluid or equivalent.

Place	Capacity	Lubricants
Engine crankcase	2.1 ℓ (2.2 U.S.qts.)	Engine oil: API Service CC or CD Below 0°C (32°F): SAE10W or 10W-30 0 to 25°C (32 to 77°F): SAE20 or 10W-30 Above 25°C (77°F): SAE30 or 10W-30 See page 39
Hydrostatic transmission	2.4 ℓ (2.5 U.S.qts.)	Engine oil: API service CD, SAE20W-30
Mower gear box	0.3 ℓ (0.3 U.S.qt.)	SAE90 gear oil
• King pins • Center pin • Tension lever • Foot pedals shaft • Shaft for U-joint • Brake link • Mower tension pulley • Mower tension pivot • Mower spindle shaft • Mower gauge wheel	Moderate Amount	SAE multi-purpose type grease
• Lift lever shaft • Cables • PTO lever • Links • Mower anti-scalp roller • Brake pedal shaft	Moderate Amount	Oil

6.3 MAINTENANCE CHECK LIST

No.	Items		Period	Every 50 Hr (2 weekly)	Hours used						After since	Reference page
					50 Hr	100 Hr	200 Hr	300 Hr	400 Hr	500 Hr		
1	Engine oil		change		⊙	○	○	○	○	○	every 100 Hr	23
2	Engine oil filter cartridge		replacement		⊙		○		○		every 200 Hr	23
3	HST Transmission fluid		change				○			○	every 300 Hr	—
4	Fan drive belt tension		check	○								33
5	Front PTO belt tension		check	○								34
6	Air cleaner element		cleaning	○								27
			replacement								every 1 year**	27
7	All grease nipple		grease	○								24,31
8	Fuel line		check			○	○	○	○	○	every 100 Hr	22
			replacement								every 2 year*	22
9	Fuel filter	Tank	replacement				○		○		every 200 Hr	22
		Engine	replacement							○	every 500 Hr	22
10	Anti-freeze and coolant		change								every 1 year	25,26
11	Radiator		cleaning								every 1 year	25
12	Radiator hose and clamp		check				○		○		every 200 Hr	26
13	Radiator core		cleaning			○	○	○	○	○	every 100 Hr**	—
14	Radiator hose		replacement								every 2 year	26
15	Mower gear box oil		change			⊙		○		○	every 200 Hr	31
16	Mower gear box oil seal		change								every 2 year	—

Note: The maintenance indicated by ⊙ must be done respectively.

* Replace only if necessary.

** This maintenance should be done more often in dusty condition than in normal conditions.

7-A. CHECK AND MAINTENANCE (MACHINE)

7.1 FUEL

■ Checking and Refueling



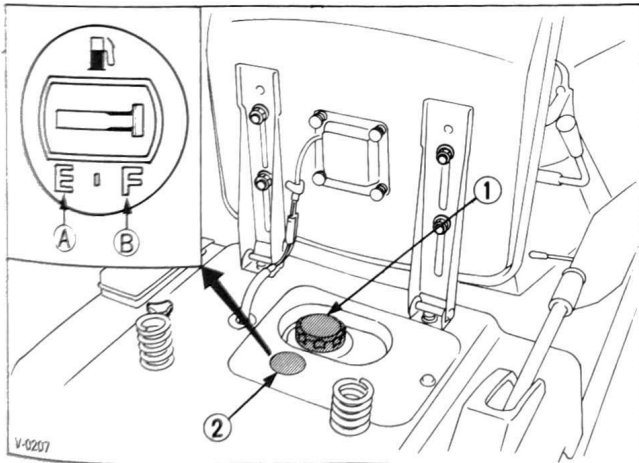
CAUTION

- Stop the engine before adding fuel. Keep away from sparks and flames.



Check the fuel level. Take care that the fuel tank does not become empty.

Fuel tank capacity	10 l (2.6 U.S.gals.)
--------------------	----------------------



- ① Fuel tank cap A "EMPTY"
② Fuel gauge B "FULL"

IMPORTANT

- (1) Use No.2 diesel fuel.
- (2) Use No.1 diesel fuel if the temperature is below -10°C (14°F).
- (3) Always use a strainer in refueling to prevent fuel injection pump contamination.
- (4) Once the fuel tank becomes empty, air admitted to the fuel system. In such a case, it will be necessary to bleed the fuel system before the engine will start.

■ Bleeding the Fuel Lines

Air must be removed:

- (1) When the fuel filter and lines are removed.
- (2) When fuel tank is completely empty.
- (3) After the machine has not been used for a long period of time.

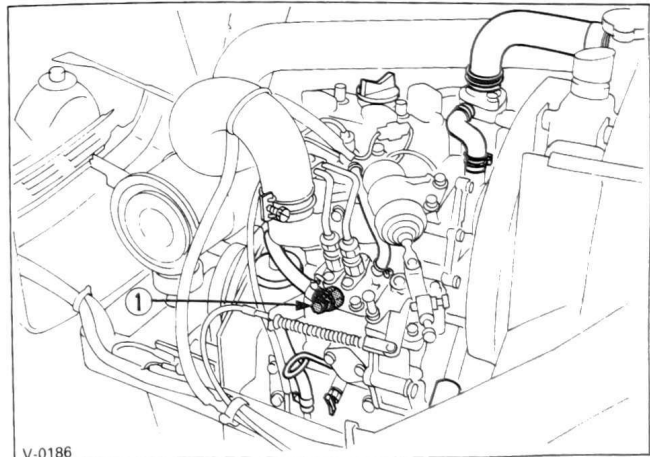
Bleeding procedure is as follows:



CAUTION

- Do not bleed the fuel system when the engine is hot.

- (1) Fill the fuel tank with fuel.
- (2) Turn the key switch to the ON position.



- ① Bleeding screw

- (3) Open the bleeding screw.
When bubbles disappear from fuel coming out of the plug, tighten the bleeding screw.

■ Checking Fuel Line



CAUTION

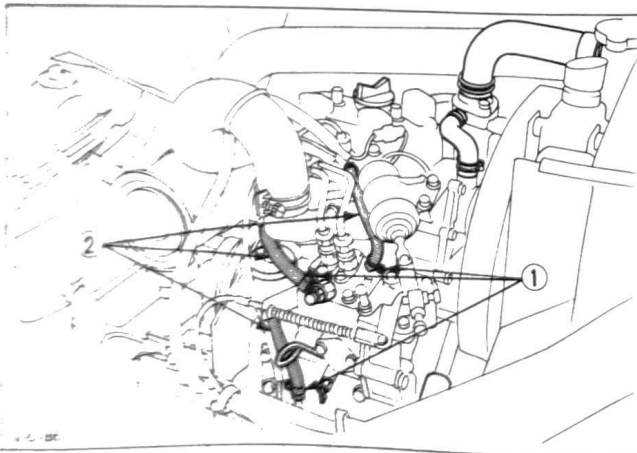
- (1) Stop the engine when attempting to check and change prescribed below.
- (2) Never fail to check the fuel line periodically. The fuel line is subject to wear and aging, fuel may leak out onto the running engine, causing a fire.

The fuel line connections should be checked every 6 months or 100 service hours, whichever occurs first.

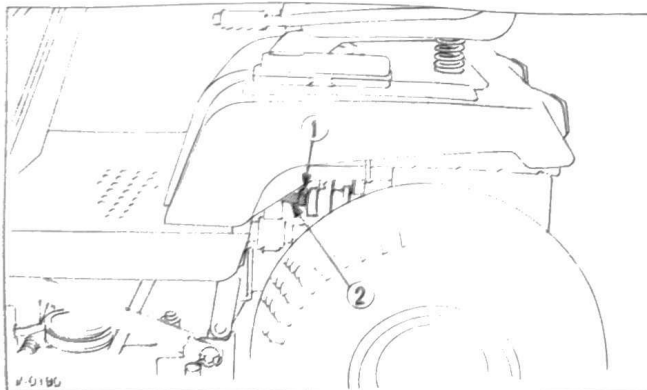
- (1) If the clamp is loose, apply a slight coat of lubricant onto the threads and retighten it securely.
- (2) The fuel line is made of rubber and ages regardless of service period.
- (3) After inspection, if the fuel line and clamps are found damaged or deteriorated, replace them.
- (4) After the fuel line and clamp have been replaced, bleed the fuel system.

IMPORTANT

- When the fuel line is disconnected for maintenance or repair, close both ends of the fuel line with a piece of clean cloth or paper to prevent dust and dirt from entering. Entrance of dust and dirt causes malfunction of the fuel injection pump. In addition, particular care must be taken not to admit dust and dirt into the fuel pump.



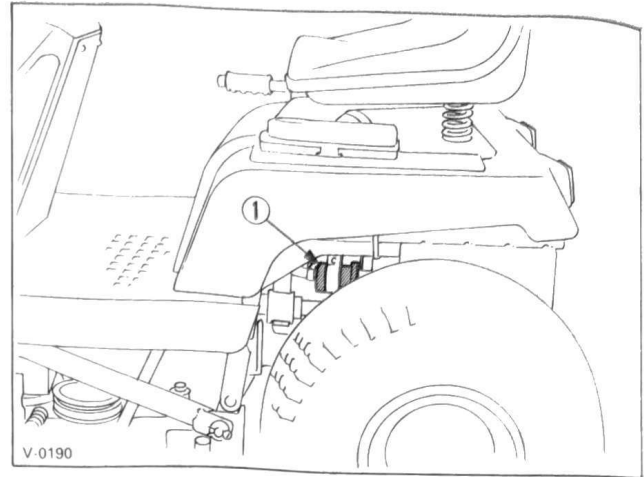
1 Pipe clamps 2 Fuel line



1 Pipe clamps 2 Fuel line

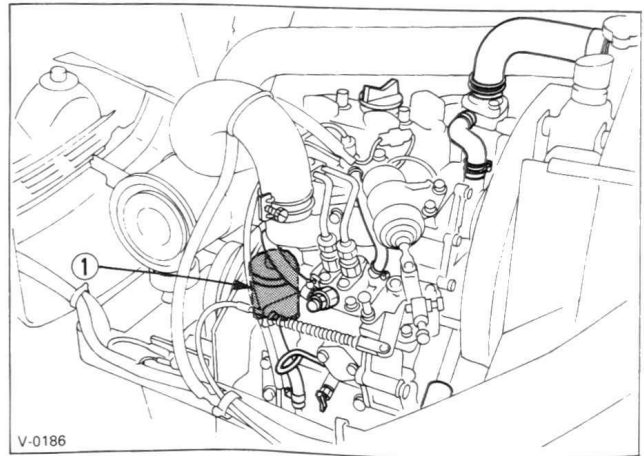
■ Fuel filter

Change fuel filter every 200 hours.



① Fuel filter 1

Change fuel filter every 500 hours.

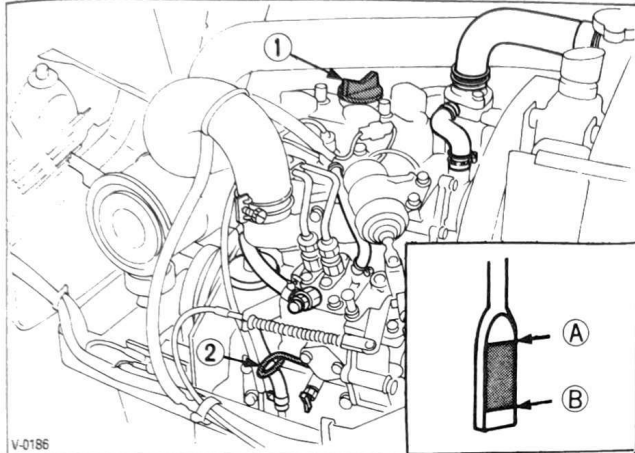


① Fuel filter 2

7.2 ENGINE OIL

■ Oil level check and Replenishment

- (1) Check engine oil before starting the engine for at least 5 minutes after the engine has stopped.
- (2) To check the oil level, remove the dipstick, wipe it clean, replace it, and draw it out again. Check to see that the oil level is between the two notches.
- (3) If the level is too low, add new oil to the recommended level at the oil port.



- ① Engine oil port A "UPPER LEVEL"
② Oil dipstick B "LOWER LEVEL"

- (4) When using a different brand or viscosity oil from the previous one, remove all of the old oil. Never mix two different types of oil.
- (5) Use the proper Engine Oil SAE according to the ambient temperatures. (See page 19)

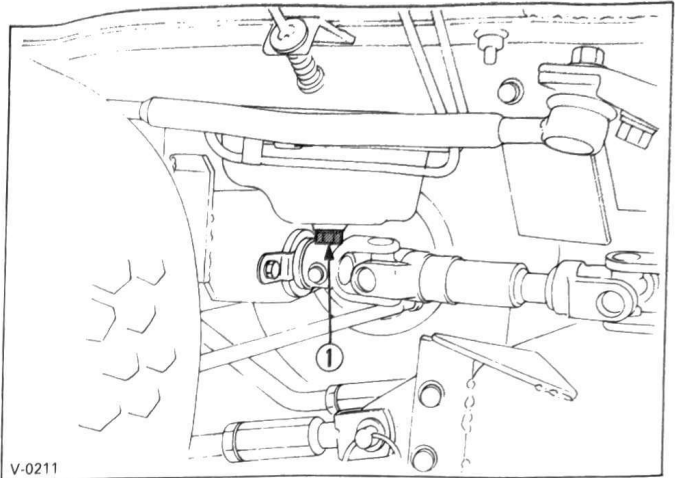
■ Engine Oil Change



CAUTION

- Before changing the oil, be sure to stop the engine.

- (1) To change the used oil, remove the drain plug at the bottom of the engine and drain the oil completely. All the used oil can be drained out easily when the engine is still warm.
- (2) Fill with the new oil up to the upper notch on the dipstick.



- ① Drain plug

■ Engine Oil Filter Cartridge Change



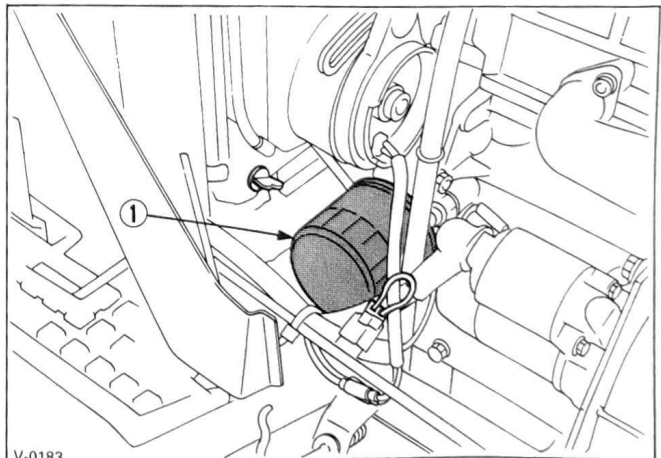
CAUTION

- Be sure to stop the engine before changing the oil filter cartridge.

- (1) The oil filter cartridge must be changed every 200 service hours (Oil Filter Cartridge 15841-3243-1).
- (2) Apply a slight coat of oil onto the rubber gasket of new cartridge.
- (3) To install the new cartridge, screw it in by hand. Over tightening may cause deformation of the rubber gasket.
- (4) After the new cartridge has been replaced, the engine oil level normally lowers a little. Add engine oil to proper level. Check for oil leaks around filter gasket.

IMPORTANT

- To prevent serious damage to the engine, replacement element must be highly efficient. Use only a genuine KUBOTA filter or its equivalent.



- ① Engine oil filter cartridge

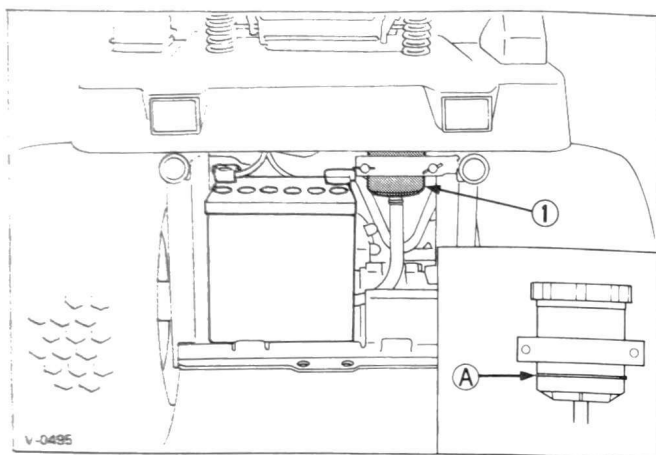
7.3 HYDROSTATIC TRANSMISSION FLUID

IMPORTANT

- Be sure to stop engine before checking or replenishing the hydrostatic transmission fluid.

■ Hydrostatic Transmission Fluid Check

- (1) Park machine on a level surface.
- (2) Check oil level while HST is cold.
- (3) Oil level must be at oil level line of tank.
- (4) If oil is below the level mark, add enough oil to bring oil level to the level mark. (See 6.2 LUBRICANTS for correct oil)

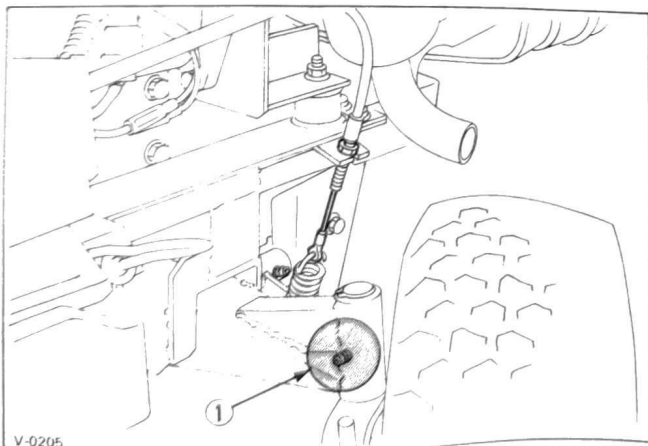


① Hydrostatic transmission oil tank A "LEVEL MARK"

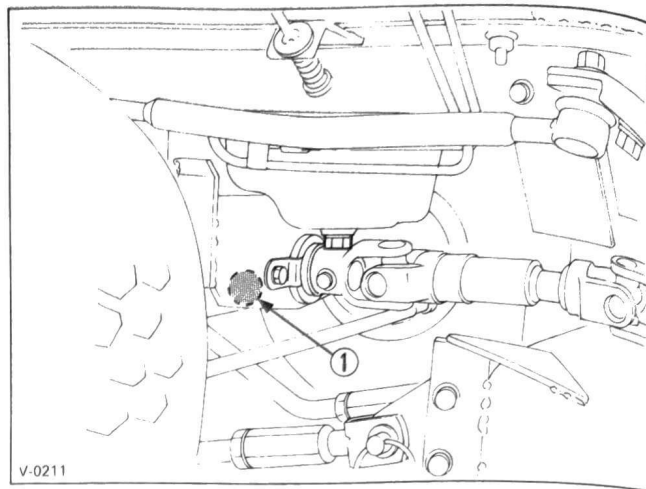
7.4 OILING AND GREASING POINTS

Oil the following points before starting.

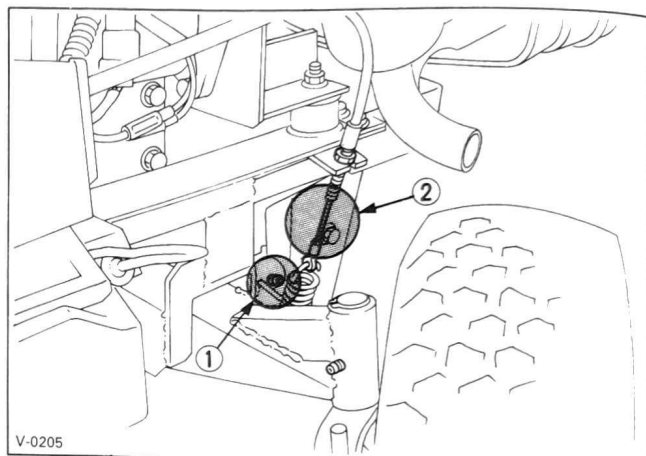
Grease the following points referring to MAINTENANCE CHECK LIST. (See page 20)



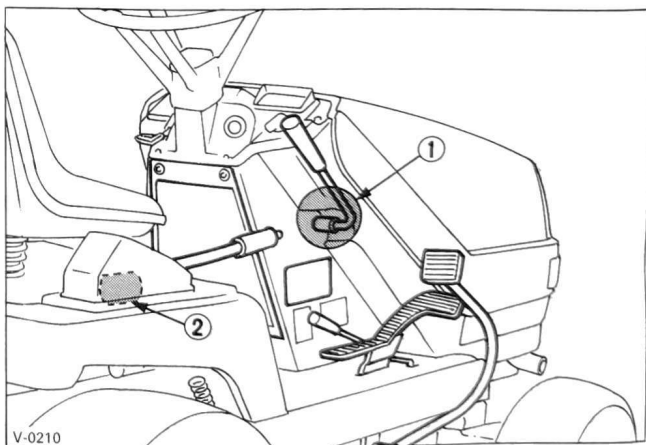
① King pins (Grease)



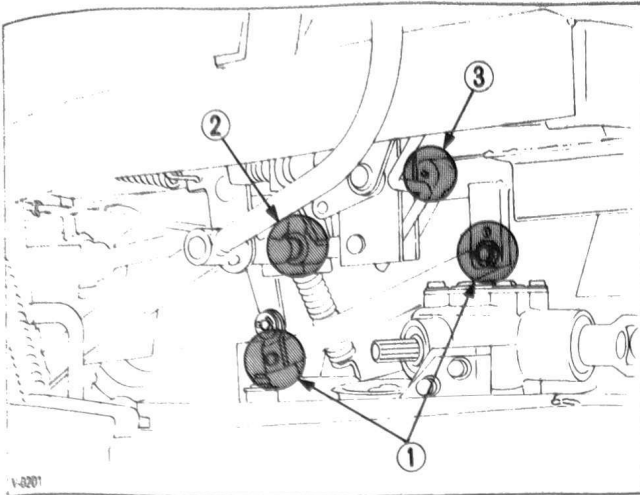
① Center pin (Grease)



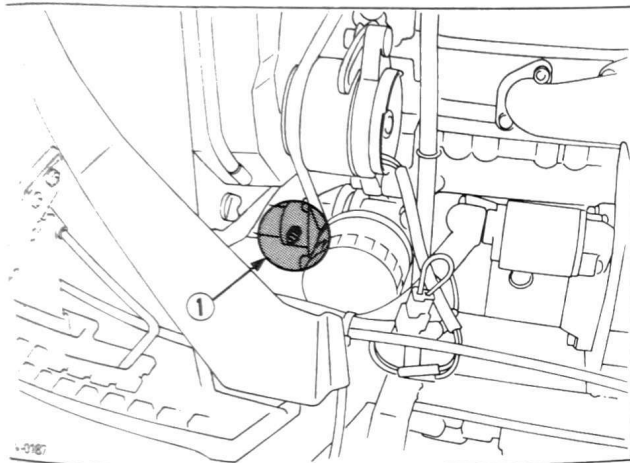
① Tension lever (Grease) ② Cable (Oil)



① PTO lever (oil) ② Lift lever shaft (oil)



- ① Links (right and left side) (Oil)
 ② Brake pedal shafts (Oil)
 ③ Foot pedal shaft (Grease)



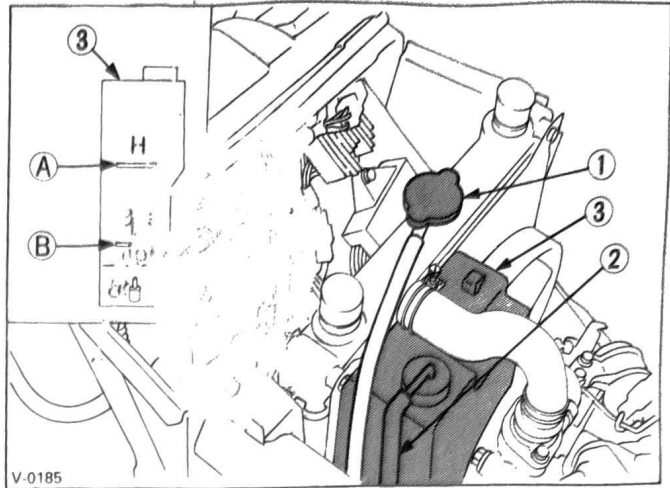
- ① Shaft for U-joint (Grease)

7.5 RADIATOR



WARNING

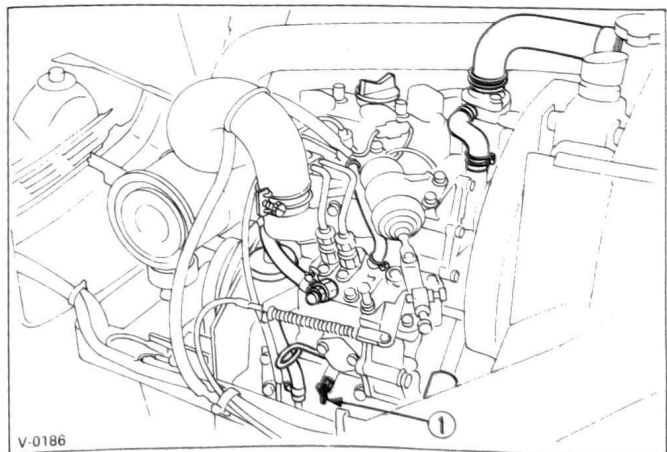
- Do not remove radiator fill cap until coolant temperature is well below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.



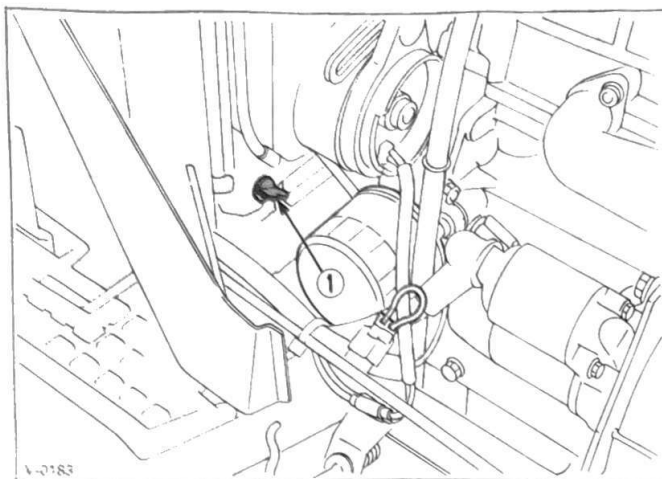
- ① Radiator cap A "HIGHEST LEVEL"
 ② Over flow pipe B "LOWEST LEVEL"
 ③ Recovery tank

■ Checking, Replenishing and Changing Coolant

- The coolant level should be between the LOW and HIGH marks on the recovery tank. If the level is near the LOW mark, remove the recovery tank cap and add coolant to bring it up to the HIGH mark.
- If the engine is stopped by over-load during operation, in order for coolant to return from the recovery tank to the radiator, keep the engine rpm idle a little while.
- Remove the radiator pressure cap and check to see that the coolant level is just below the port. If short, add coolant.
- To drain the used coolant, open the drain cocks and remove radiator cap. The radiator cap must be removed to completely drain the radiator.



- ① Drain cock



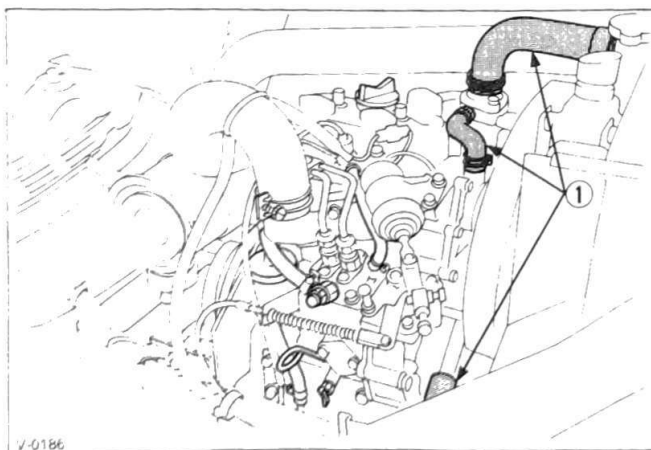
1 Drain cock

- (5) Be sure to close the radiator cap securely. If the cap is loose or improperly closed, water may leak out and the engine could overheat.
- (6) The radiator should be filled with part anti-freeze and part water at all times as recommended by the anti-freeze manufacturer. The anti-freeze contains a corrosion inhibitor and will allow a higher operating temperature in the radiator during the hot season.
- (7) Do not use an anti-freeze and scale inhibitor at the same time.

■ Checking Radiator Hoses (Water Pipes)

Check to see if radiator hoses are properly fixed every 200 hours of operation or six months, whichever comes first.

- (1) If clamp bands are loose or water leaks, tighten bands securely.
 - (2) Replace hoses and tighten clamp bands securely, if radiator hoses are swollen, hardened or cracked.
- Replace hoses and clamp bands every 2 years or earlier if checked and found that hoses are swollen, hardened or cracked.



1 Radiator hose

■ Precaution at Overheating

Take the following actions in the event the coolant temperature be nearly or more than the boiling point, what is called "Overheating".

- (1) Stop the machine operation in a safe place and keep the engine unloaded idling.
- (2) Don't stop the engine suddenly, but stop it after about 5 minutes of unloaded idling.
- (3) Keep yourself well away from the machine for further 10 minutes or while the steam blown out.
- (4) Checking that there gets no danger such as burn, get rid of the causes of overheating according to the manual, see "Troubleshooting" section. And then, start again the engine.

■ Remedying Coolant Leakage

- (1) Coolant leakage can easily be eliminated with the Kubota Radiator Cement No. 40 or its equivalent.
- (2) If coolant leakage should become extremely excessive, consult your local dealer.

■ Cleaning Cooling System

- (1) The cooling system should be cleaned on the following occasions: Every 1 year service. When adding anti-freeze solution.
When changing from water containing anti-freeze to pure water.
- (2) When cleaning the cooling system, the Kubota Scale Inhibitor No.20 or its equivalent, is recommended to effectively wash away the scale build-up.

■ Anti-Freeze

If the cooling water freezes, the engine cylinder and radiator may crack. In cold weather when the temperature drops below 0°C (32°F), add a proper amount of anti-freeze when the tractor is shut down.

- (1) There are two types of anti-freeze solutions, permanent type (PT) and semipermanent type (SPT). For the Kubota engine, be sure to use the permanent type.
- (2) When anti-freeze is used for the first time, drain and flush the cooling system completely.
- (3) Radiator should be filled with an anti-freeze and water solution as recommended by the anti-freeze manufacturer. The anti-freeze contains a corrosion inhibitor and will allow a higher operating temperature in the radiator during the hot season.
- (4) Mix the anti-freeze and the water, then pour the mixture into the radiator.
- (5) When the water mixed with anti-freeze decrease due to evaporation, replenish with water only. If loss has been due to leaking, add water and anti-freeze mixture with the same mix ratio as the original preparation.
- (6) Anti-freeze solutions absorb moisture, so be sure to securely close the container after use.
- (7) Anti-freeze and water should be changed every year.
- (8) Do not use an anti-freeze and a scale inhibitor at the same time. This may cause sludge to form, adversely affecting the engine parts.

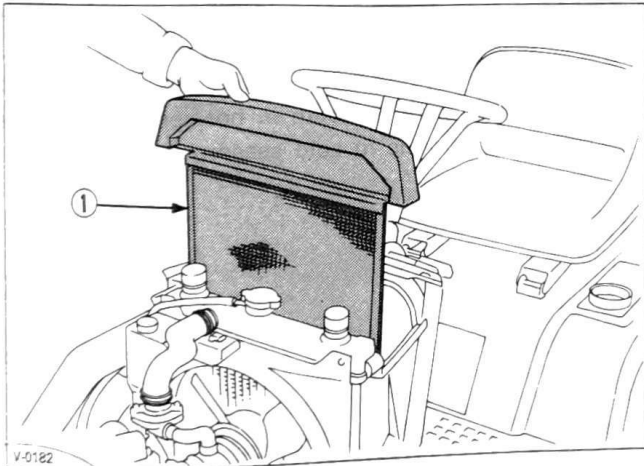
■ Checking and Cleaning Radiator to Prevent Overheating

Daily or after every 5 hours of operation, check to be sure the radiator screen and radiator core are clean. Dirt or chaff on the radiator screen or radiator core decrease cooling performance.

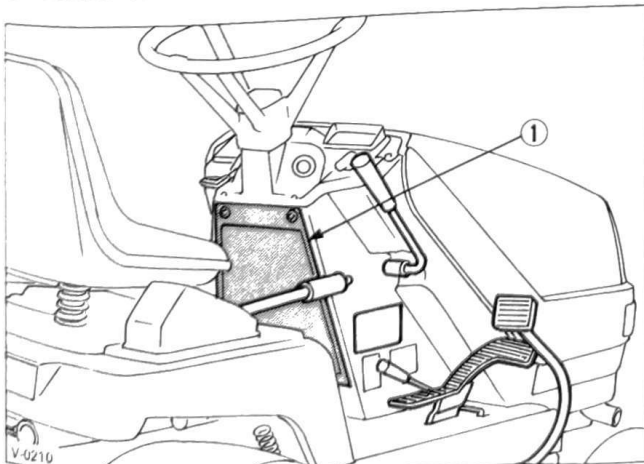
- (1) Remove the radiator screen and remove all foreign material.
 - (2) Remove the dust from between the fins and the tube.
 - (3) Tighten the fan drive belt as necessary. For this, refer to page 32.
 - (4) If scale forms in the tube, clean with the scale inhibitor or its equivalent.
 - (5) Each time the air intake screen is covered with grass during operation, rub it off the screen with hand. Check the radiator screen from time to time if grass often gets on it.
 - (6) If the dust or chaff is accumulated inside of the panel, remove the air intake screen and clean the inside of the panel completely.
- After cleaning, place the air intake screen properly.

IMPORTANT

- Be sure to stop the engine before cleaning the radiator screen.



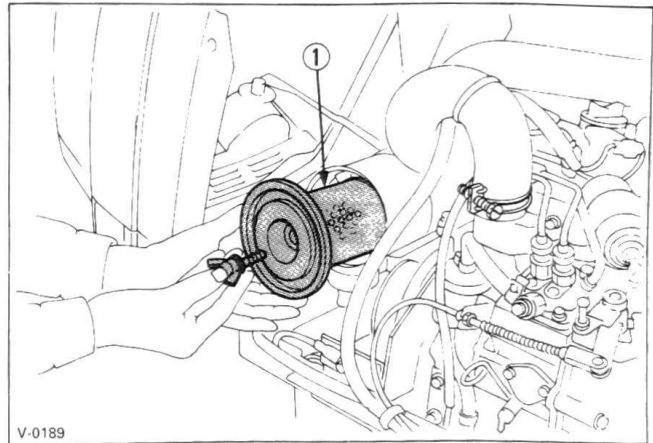
① Radiator screen



① Air intake screen

7.6 AIR CLEANER

- (1) The air cleaner uses a dry element, never apply oil.
- (2) Do not touch the filter element except where cleaning is required. To clean the element, use clean and dry compressed air on the inside of the element. Air pressure should not exceed 205 kPa (2.1 kgf/cm², 30 psi).
- (3) If the element is stained with carbon or oil, apply one of the following cleaners or equivalent.
ND-1400 (by Donaldson)
- (4) When cleaning the air filter element, do not remove the cyclone from the air filter element, handle with care not to damage it (do not hit it), and reinstall the element correctly.
The damage of the element may cause serious trouble to the engine.
- (5) Change the element once a year or every 6th time the air cleaner is cleaned, whichever occurs first.



① Air cleaner element

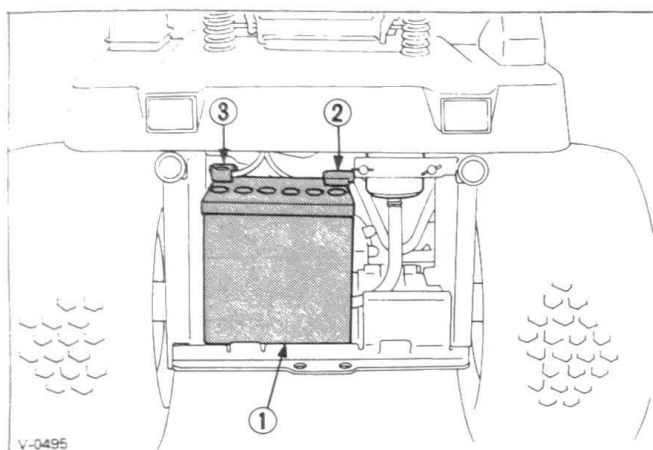
7.7 BATTERY



CAUTION

- Never take the battery cap off while the engine is running. Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately.

Mishandling the battery shortens the service life and adds to maintenance costs. Be sure to handle it correctly so that it will develop its full potential performance.



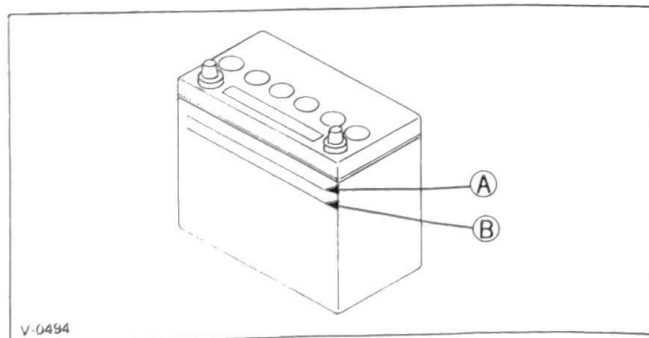
① Battery ② Positive cable ⊕ ③ Negative cable ⊖



CAUTION

- Gas given off by batteries is explosive. To avoid injury or battery damage, avoid sparks near the battery.

- (1) If the battery is weak, the engine is difficult to start and the lights become dim. It is important to check the battery daily and recharge before trouble occurs.
- (2) The water in the electrolyte evaporates during recharging. Liquid shortage damages the battery and excessive liquid damages the machine body. If low, be sure to fill up the battery with distilled water only.



A "HIGHEST LEVEL" B "LOWEST LEVEL"

- (3) To charge the battery connect the battery positive terminal to the charger positive terminal and the negative to the negative, then recharge in the standard fashion.
- (4) A boost charge is only for emergencies only. When using a boost-charged battery, it is necessary to recharge the battery as early as possible after the operation has been finished. Failure to do this extremely affects its service life.



CAUTION

- (1) When connecting the battery, do not reverse the polarities. Connection with reverse polarities will cause spark and troubles to the battery and electrical system in the tractor.
- (2) When disconnecting the cable from the battery, start with the negative terminal first. When connecting, start with the positive terminal first. Reversing the steps may cause short-circuiting, should a metallic tool touch the terminals.

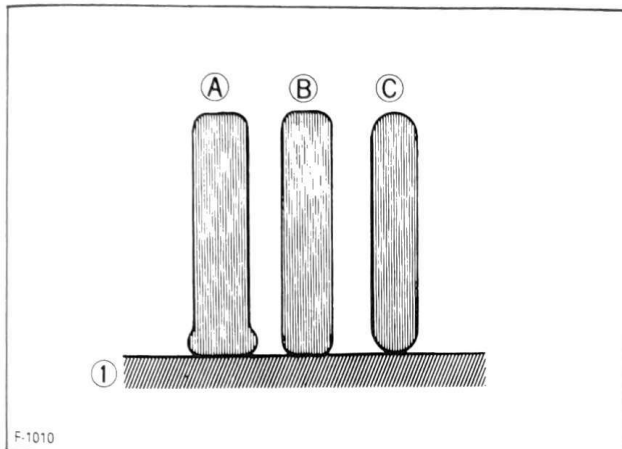
■ Direction for Storage

- (1) When storage the machine for long periods of time, remove the battery from the machine, adjust the electrolyte to the proper level by adding distilled water only and store in a dry place out of direct sunlight.
- (2) The battery self-discharges even while it is stored. Recharge it once a month in hot seasons and once every two months in cold seasons.

7.8 TIRE PRESSURE

Though the tire pressure is factory-set to the recommended level, it naturally drops slowly in the course of time. Thus, check it every day and inflate as necessary.

Normal wheel tire pressures	
Front	Rear
100 kPa	70 kPa
14 psi	10 psi
1.0 kgf/cm ²	0.7 kgf/cm ²

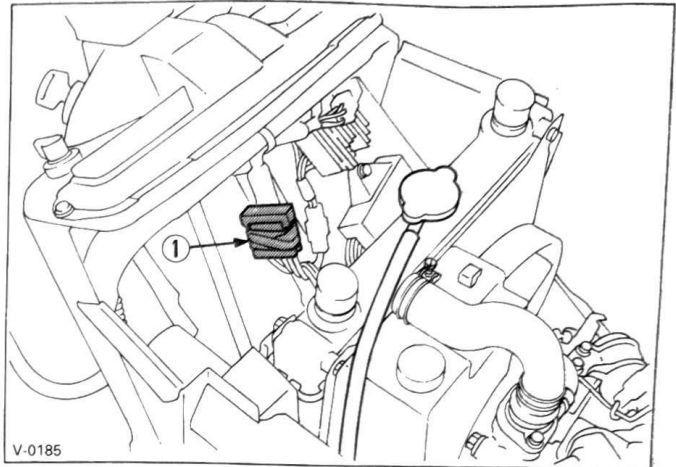


- ① Ground ② "STANDARD"
 ③ "INSUFFICIENT" ④ "EXCESSIVE"

7.9 FUSE

Replacement of the fuse

- (1) Remove the lid of the fuse box.
- (2) Disconnect the blown fuse.
- (3) Place a new fuse of same capacity in position.



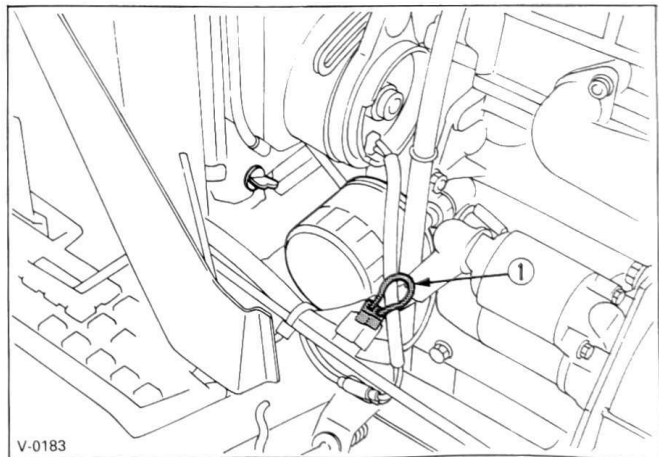
① Fuse box

IMPORTANT

- If the new fuse happens to quickly blow out, contact your dealer for inspection and repair. Never use any wire or foil.

■ Fusible link

The fusible link is intended to protect the wiring. If the link breaks down, pinpoint the cause. Be sure to use the genuine part, not any substitute.



① Fusible link

7.10 TESTING SAFETY SYSTEMS



CAUTION

- (1) If the machine does not pass one of the following tests do not operate the machine, see your Kubota dealer.
- (2) Check while seated.

◆ Safety switch

Test 1

- (1) Depress the brake pedal fully.
- (2) Shift the PTO lever to engaged position.
- (3) Turn the key to START position.
- (4) The engine must not crank.

Test 2

- (1) Disengaged PTO lever.
- (2) Release the brake pedal.
- (3) Turn the key to START position.
- (4) The engine must not crank.

◆ Seat Safety Control

- (1) Run the engine at half throttle.
- (2) Engaged the PTO clutch lever.
- (3) Stand up. (Do not get off the machine.)
- (4) Engine must shut off.

7-B. CHECK AND MAINTENANCE (MOWER)

7.1 CHECK AND MAINTENANCE

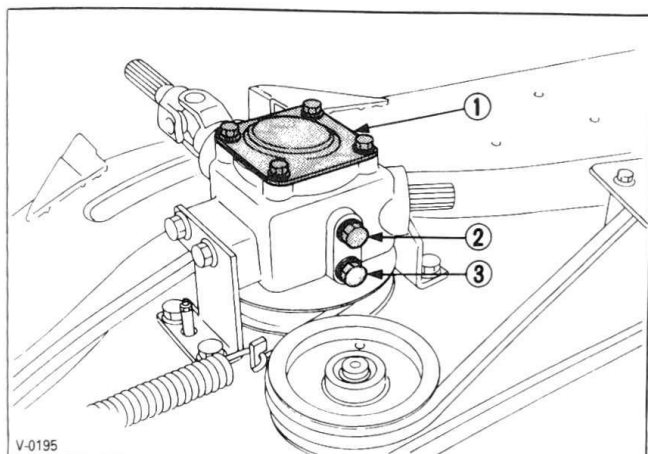


CAUTION

- Stop engine and remove the key.

■ Gear box oil

- (1) To check the oil level, remove the check plug (bolt).
 - Place mower on a level surface.
 Loosen check plug-Oil should steep from the opening. If low remove the rubrication cap and add oil. (Use SAE 90 gear oil)



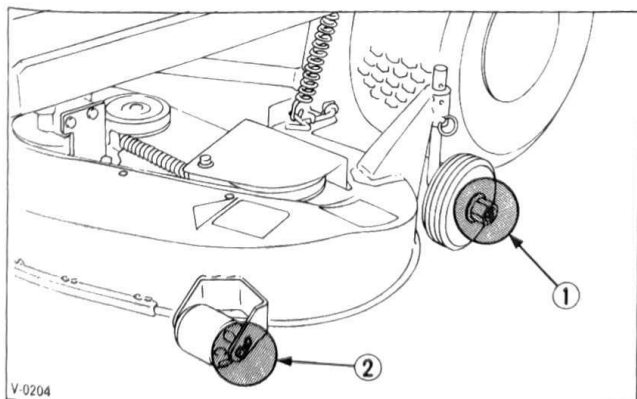
- ① Lubrication cap
- ② Check plug (Bolt)
- ③ Drain plug (Bolt)

- (2) Change gear oil, remove the rubrication cap and drain plug and drain oil.
- (3) Refill gear case.

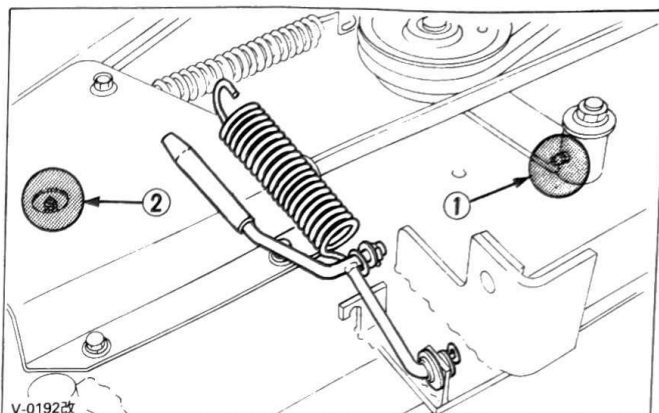
■ Oiling and greasing points

Oil the following points before starting.

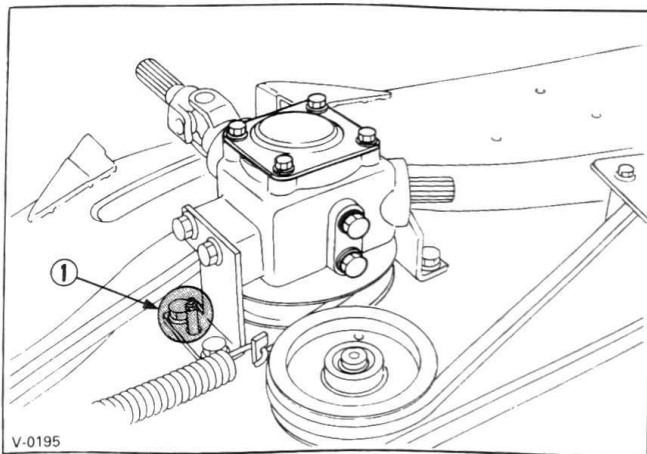
Grease the following points referring to MAINTENANCE CHECK LIST. (See page 20)



- ① Gauge wheels (Grease)
- ② Roller (Oil)



- ① Tension pivot (Grease)
- ② Spindle shaft (R.H.,L.H.) (Grease)



- ① Spindle shaft (Grease)

NOTE

- (1) Use SAE 90 gear oil in all seasons.
- (2) Change oil in gear box after first 100 hrs. and every 200 hrs. there after.
- (3) After checking above items, replace any worn, damaged or missing parts.
- (4) Dry deck completely before storage, or pulley belt damage can result.

7.2 BLADE REPLACEMENT

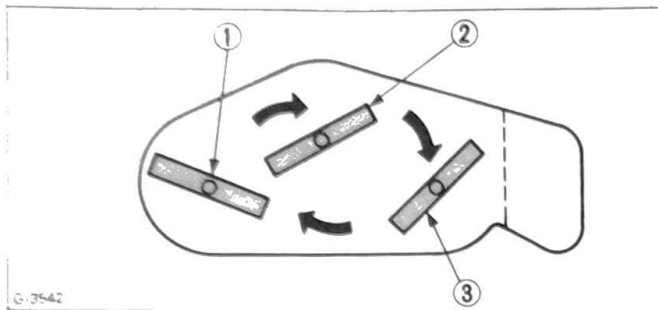


CAUTION

- Always handle the blades with care to avoid injury.

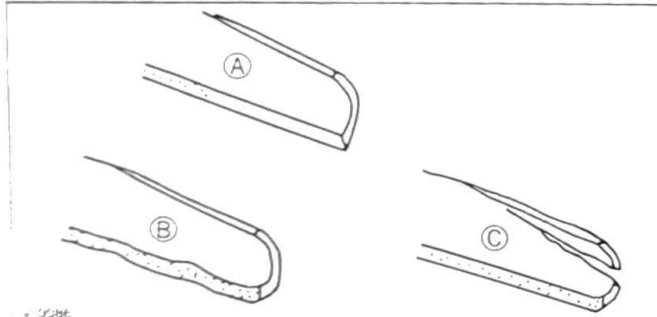
IMPORTANT

- The bolt (blade) has R.H. threads. Turn it counterclockwise to loosen.
- To prolong the service life of the blade, reposition its sections each other as shown in the figure below.



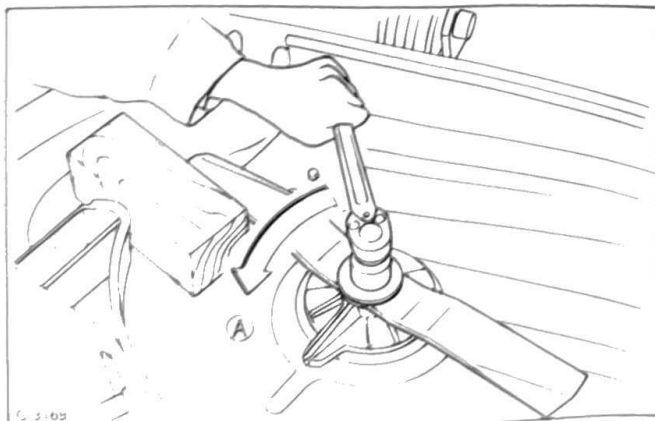
① LH blade ② Center blade ③ RH blade

The blade cutting edges should be kept sharp at all times. Sharpen the cutting edges, if they resemble the blade in figure B. Replace the blades if they appear similar to the blade as shown in figure C.



A New blade B Worn blade C Cracked blade

- (1) Remove the mower from the machine and turn it over to expose the blades.
- (2) Wedge a block of wood between the blade and mower housing or install box wrench over pulley nut to prevent spindle from rotating while removing blade bolts, then loosen the blade bolt as illustrated.



A "LOOSEN"

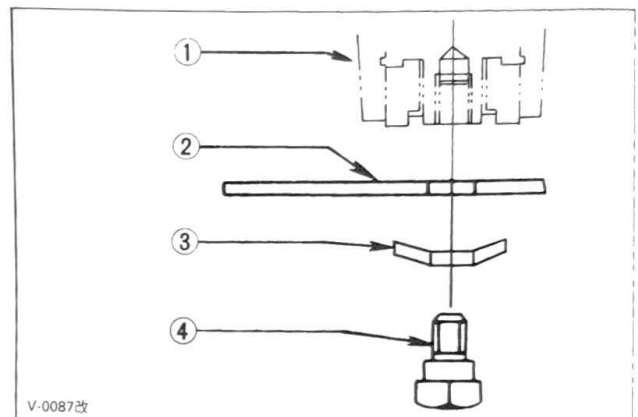


CAUTION

- Wear heavy gloves when removing blades.

NOTE

- Use the proper metric size box or socket wrench to tighten or loosen the blade mounting bolt.
- (3) To sharpen the blades, clamp the blade securely in a vise.
Use a large mill file and file along the original bevel until sharp.
 - (4) To check the blade for balance, place a small rod through the center hole. The blade should balance on this rod. If the blade is not balanced, file the heavy side of the blade until balance is achieved.
 - (5) To attach outer blades, be sure to install the cup washer between the blade and bolt head.



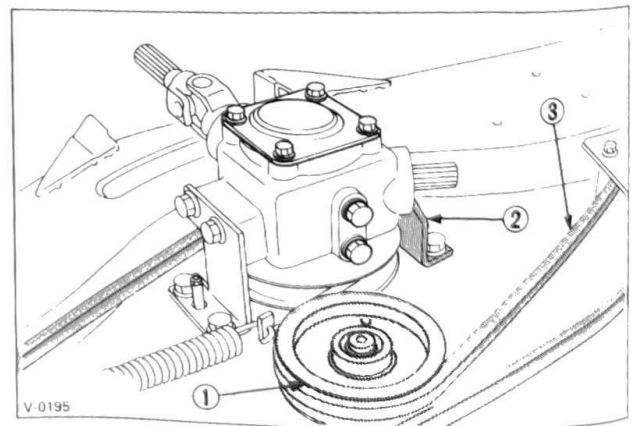
① Spindle holder ③ Cup washer
② Blade ④ Bolt

7.3 BELT REPLACEMENT

- (1) Remove the mower from the machine.
- (2) Remove the left and right hand shield from the mower deck.
- (3) Clean around the gear box.
- (4) Remove the right hand bracket which mounts the gear box to the mower deck.
- (5) Remove the belt from the tension pulley. Slip the belt over the top of the gear box.
- (6) To install a new belt, reverse the above procedure.

NOTE

- Tighten bracket bolts securely.



① Tension pulley ② Bracket (R.H.) ③ Belt

8. ADJUSTMENTS



CAUTION

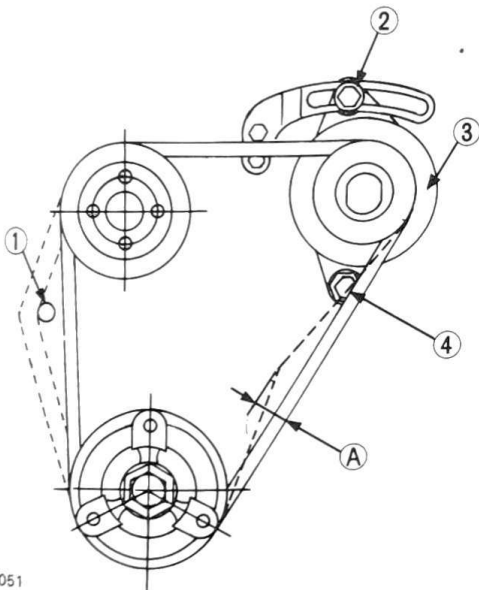
- When making adjustments, park the machine on a level surface, apply the parking brake and stop the engine and remove the key.

8.1 FAN DRIVE BELT TENSION

If the fan drive belt becomes loose, the engine may overheat. To adjust, loosen bolts and turn the alternator to stretch the belt. After adjustment, securely retighten the bolts.

Moderate belt tension:

The belt should deflect approx. 10 mm (0.4 in.) when the center of the belt is depressed with finger pressure of 98N (10kgf, 22 lbs).



F-3051

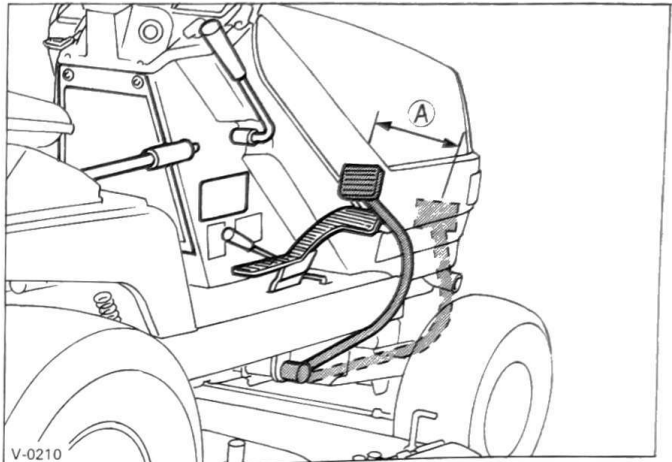
- ① Cap ③ Alternator A 10 mm (0.4 in.)
 ② Tension bolt ④ Adjusting bolt

IMPORTANT

- When replacing fan drive belt, be careful not to catch it on the cap under the water pump. See the illustration above.

8.2 BRAKE

Pedal travel ranges from 0 to 20 mm (0 to 0.8 in.). If brake pedal travel becomes too great, loosen the lock nuts and turn the nuts in the desired direction until the proper travel is achieved. After adjustment, securely retighten the nut.



V-0210

- A Play 0 to 20 mm (0 to 0.8 in.)

8.3 PTO BELT TENSION



CAUTION

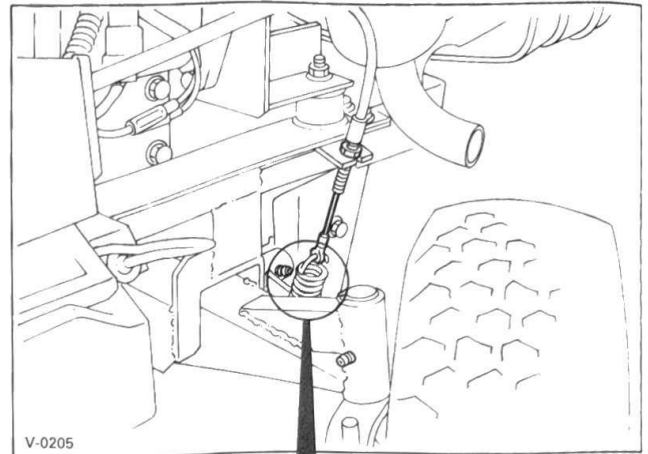
- Always stop the engine, set the parking brake, remove the key, and disengage PTO lever before working on PTO.

If the front PTO belts slip when the PTO is operating under load, check the PTO belt tension and adjust the tension spring length, as explained below.

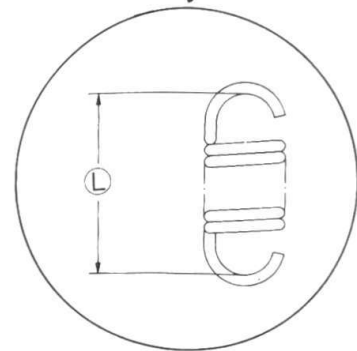
- (1) Engage PTO lever.
- (2) Measure tension spring length $\textcircled{L}$
- (3) If $\textcircled{L}$ is shorter than 76mm (3.0 in.) adjust it with the tension clutch cable adjusting nut.
 - $\textcircled{L}$ should be 77 to 80 mm (3.0 to 3.1 in.)
- (4) After adjustment tighten the nut securely.

IMPORTANT

- When replacing the PTO belts, be sure to replace the complete set. These belts are a matched set.



V-0205



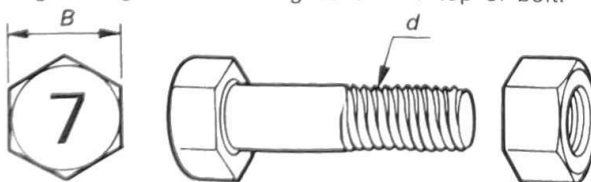
F-3078

8.4 TIGHTENING TORQUE CHART

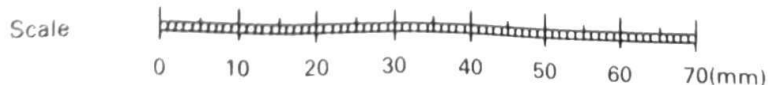
Thread Size d (mm)	Hexa-Bolt Head size B (mm)	No mark			7T		
		ft-lbs	N·m	kgf·m	ft-lbs	N·m	kgf·m
M8	12 or 13	13.0~15.2 (14.1±1.1)	17.8~20.6 (19.2±1.4)	1.9~2.1 (2.0±0.1)	17.5~20.3 (18.9±1.4)	23.5~27.5 (25.5±2.0)	2.4~2.8 (2.6±0.2)
M10	14 or 17	28.9~33.3 (31.1±2.2)	39.3~45.1 (42.2±2.9)	4.0~4.6 (4.3±0.3)	35.4~41.2 (38.3±2.9)	48.1~55.9 (52.0±3.9)	4.9~5.7 (5.3±0.4)
M12	17 or 19	46.3~53.5 (49.9±3.6)	62.8~72.6 (67.7±4.9)	6.4~7.4 (6.9±0.5)	57.1~66.5 (61.8±4.7)	77.6~90.2 (83.9±6.3)	8.0~9.2 (8.6±0.6)
M14	19 or 22	79.6~92.6 (86.1±6.5)	107.9~125.5 (116.7±8.8)	11.0~12.8 (11.9±0.9)	91.1~108.5 (99.8±8.7)	123.6~147.0 (135.3±11.7)	12.6~15.0 (13.8±1.2)

NOTE:

- Figure "7" on the top of the bolt indicates that the bolt is of special material.
- Before tightening, check the figure on the top of bolt.



F 7394



9. TROUBLESHOOTING

9.1 BATTERY TROUBLESHOOTING

Trouble	Cause	Remedy	Preventive measure
Starter does not function.	● Battery overused until lights are dim.	● Charge battery sufficiently.	● Charge the battery properly.
	● Battery has not been recharged.		
	● Poor terminal connection.	● Clean the terminal and tighten securely.	● Keep the terminal clean and tight. Apply grease and treat with anti-corrosives.
	● Battery life expired.	● Renew battery.	
From beginning starter does not function, and lights soon become dim.	● Insufficient charging.	● Charge battery sufficiently.	● Battery must be serviced properly before initial use.
When viewed from top, the top of plates looks whitish.	● Battery was used with an insufficient amount of electrolyte.	● Add distilled water and charge the battery.	● Regularly check the electrolyte level.
	● Battery was used too much without recharging.	● Charge battery sufficiently.	● Charge the battery properly.
Recharging is impossible.	● Battery life expired.	● Replace battery.	
Terminals are severely corroded and heat up.	● Poor terminal connection.	● Clean the terminal and tighten securely.	● Keep the terminal clean and tight. Apply grease and treat with anti-corrosives.
Battery electrolyte level drops rapidly.	● There is a crack or pin holes in the electrolytic cells.	● Replace battery.	

If you have any questions, contact your KUBOTA dealer.

9.2 MACHINE TROUBLESHOOTING

Trouble	Cause	Remedy
Machine operation is not smooth.	● Hydrostatic transmission fluid is insufficient.	● Replenish oil.
Machine does not move while engine is running.	● Parking brake is on. ● Hydrostatic transmission fluid level is insufficient.	● Release the parking brake. ● Replenish oil.
Machine moves when speed control pedal is not depressed. (Engine is operated.)	● Hydrostatic lever linkage is not correctly adjusted.	● Ask your dealer for hydrostatic lever linkage adjustment or pressure adjustment.

If you have any questions, contact your KUBOTA dealer.

9.3 ENGINE TROUBLESHOOTING

If the engine is not performing correctly, refer to the table below for the cause and its corrective measure.

Trouble	Cause	Remedy
Engine is difficult to start.	● No fuel flow.	● Check the fuel tank and the fuel filter, and remove dirt build-up. ● Replace filter if necessary.
	● Air and water is in the fuel system.	● Check to see if the fuel lines are tight. Bleed the fuel system. (see page 21)
	● In winter, oil viscosity increases, and engine cranks slow.	● Use oils of different viscosities, depending on ambient temperatures.
	● Battery is discharged and the engine will not crank.	● Charge the battery. ● In cold weather, always remove the battery, charge it and store it indoors. Install it only when the machine is going to be used.
Insufficient engine power.	● Insufficient fuel. ● The air cleaner is clogged.	● Check the fuel system. ● Clean the element.
Engine stops suddenly.	● Insufficient fuel.	● Refuel. ● Bleed the fuel system.
Exhaust fumes are abnormal.	● Fuel quality is poor.	● Change the fuel.
Engine overheats.	● Engine overloaded.	● Shift to lower gear or reduce load.
	● Low coolant level.	● Fill cooling system to proper level; check radiator and hoses for loose connections or leaks.
	● Loose or defective fan belt.	● Adjust fan belt.
	● Dirty radiator core or grille screens.	● Remove all trash.
	● Coolant flow route corroded.	● Flush cooling system.

If you have any questions, contact your KUBOTA dealer.

9.4 MOWER TROUBLESHOOTING

Trouble	Cause	Remedy
Discharge chute plugged.	• Grass too wet. • Grass too long. • Cutting too low. • Engine rpm too low. • Ground speed too fast.	• Wait for grass to dry. • Raise cutting height and cut grass twice. • Raise cutting height. • Mow at full throttle. • Slow down.
Streaking of grass uncut.	• Ground speed too fast. • Engine rpm too low. • Grass too long. • Blades dull or damaged. • Debris in mower deck.	• Slow down. • Mow at full throttle, check and reset engine rpm. • Cut grass twice. • Replace blades or have blades sharpened. • Clean mower deck.
Uneven cut.	• Mower deck not level. • Ground speed too fast. • Blades dull. • Blades worn. • Low tire inflation. • Gauge wheels not adjusted correctly.	• Level mower deck. • Slow-down. • Have blades sharpened. • Replace blades. • Add air to correct. • Adjust gauge wheels.
Blades scalping grass.	• Cutting height too low. • Turning speed too fast. • Ridges in terrain. • Rough or uneven terrain. • Gauge wheels not adjusted correctly. • Bent blade(s).	• Raise cutting height. • Reduce speed on turns. • Change mowing pattern. • Adjust gauge wheels and antiscalp rollers. • Adjust gauge wheels and antiscalp rollers. • Replace blade(s).
Belt slipping.	• Belt tension incorrectly. • Mower deck plugged. • Debris in pulleys. • Worn belt.	• Adjust belt tension. • Unplug and clean mower deck. • Clean pulleys. • Replace belt.
Excessive vibration.	• Debris on mower deck or in pulleys. • Damaged drive belt. • Damaged pulleys. • Pulleys out of alignment. • Blades out of balance.	• Clean mower deck and pulleys. • Replace drive belt. • Replace pulleys. • See your KUBOTA dealer. • Have blades balanced.
Mower loads down tractor.	• Engine rpm too low. • Ground speed too fast. • Debris wrapped around mower spindles.	• Mow at full throttle, check and reset engine rpm. • Slow down. • Clean mower.

If you have any questions, contact your KUBOTA dealer.

10. LONG-TERM STORAGE



CAUTION

- (1) To reduce fire hazards, allow the engine and exhaust system to cool before storing the vehicle in an enclosed space or near combustible materials.
- (2) Do not operate the engine in a closed room. The air will be polluted with exhaust gas which is very dangerous.
- (3) Do not clean the machine with engine running.
- (4) When storing, remove the key from the key switch to avoid unauthorized persons from operating the machine and getting injured.

When the machine is not going to be operated for two or three months or longer, clean the machine and perform the following operations before storage.

- (1) Repair the parts where needed.
- (2) Check bolts and nuts, tighten as necessary.
- (3) Apply grease or engine oil to parts most likely to rust.
- (4) Inflate the tires to a little above the standard pressure levels.
- (5) Change the engine oil and run the machine for five minutes so that the oil circulates through the entire system.
- (6) Drain fuel tank and run engine to eliminate fuel from the lines.
- (7) Drain the cooling system.
- (8) Lower the implement to the ground.
- (9) Remove the battery from the machine, recharge it, adjust the electrolyte to the proper level, and store in a dry place out of direct sunlight.
- (10) The battery runs down over time even while in storage. Recharge it once a month in hot seasons and once every two months in cold seasons.
- (11) Store the machine where it is dry and sheltered from rain. Further cover the machine with a tarpaulin.
- (12) When leaving the machine outdoors, protect the muffler opening from rain.

STORING AND HANDLING FUEL

- (1) Buy clean, high quality fuel from a reliable supplier.

IMPORTANT

- Keep dirt, scale, water or other foreign material out of fuel.
- (2) Keep fuel in a clean container in a protected area away from buildings.
- (3) Drain water and sediment from storage tank regularly.
- (4) Keep storage tank on its side with plug up.
- (5) Avoid storing fuel for a long time. If you keep fuel for a long time, add a fuel conditioner to prevent water condensation and varnish. See your KUBOTA dealer for conditioner.

IMPORTANT

- Remove the mower deck shield and clean all debris off deck. Paint any surfaces that have exposed metal.

11. LUBRICANT SPECIFICATIONS

■ Engine oil

Oil used in the engine should have an American Petroleum Institute (API)/SAE Classification of service CC or CD. The chart below shows the correct oil to be used at various temperature conditions:

ENGINE OIL VISCOSITY CHART

Below 0°C (32°F)	SAE10W or 10W-30
0 to 25°C (32 to 77°F)	SAE20 or 10W-30
Above 25°C (77°F)	SAE30 or 10W-30

■ Hydrostatic Transmission Oil (HST)

Oil used in the hydrostatic transmission is SAE 20W-30 engine oil classified API service CD.

KUBOTA LUBRICANTS

THE BEST CHOICE SINCE BUYING YOUR KUBOTA



When you think of Kubota diesel tractors, you think of quality, performance and service. Now you can also think of Kubota lubricants.

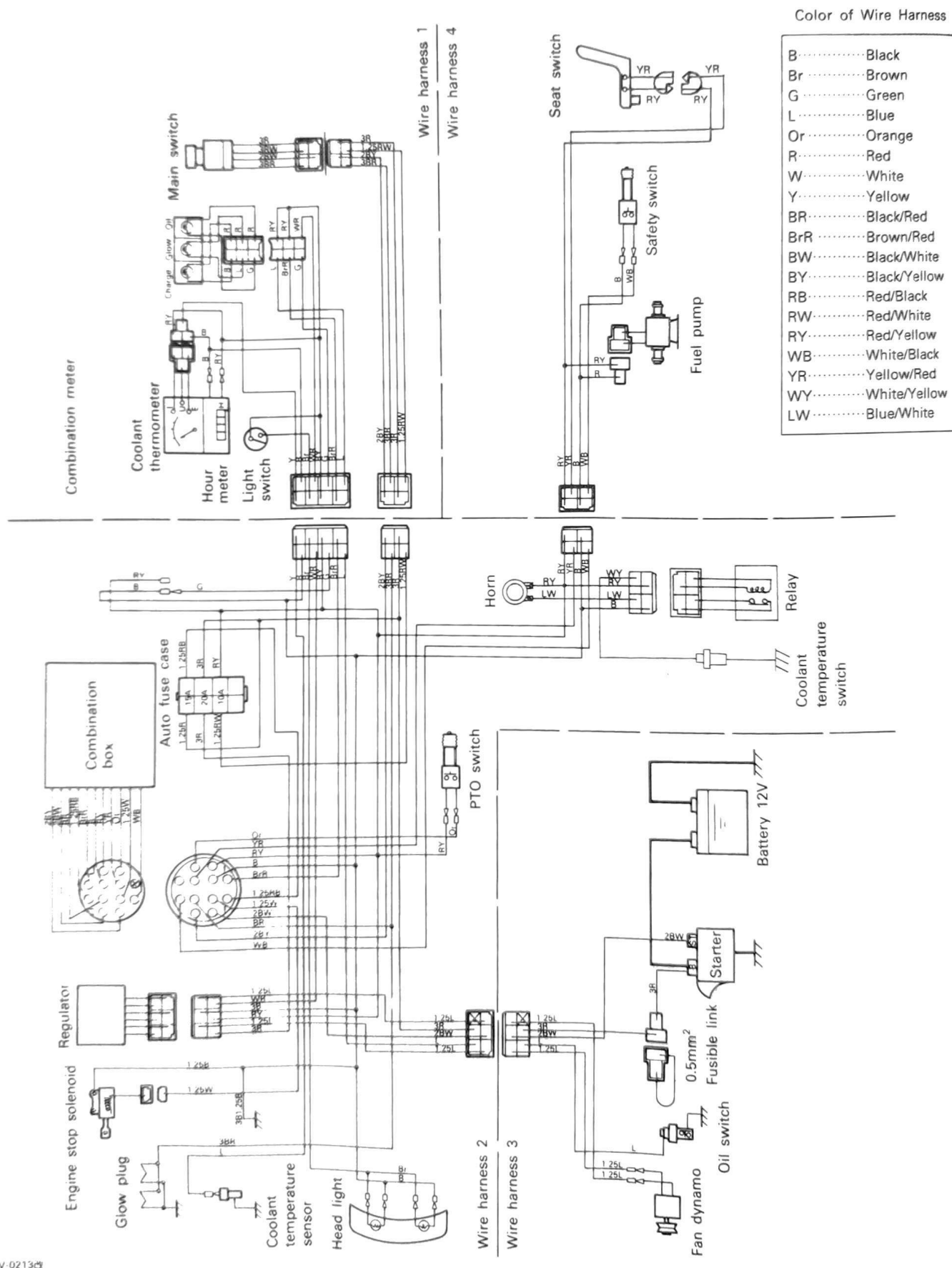
Now, Kubota offers a lubricant line to use with all the Kubota tractors from 10 to 85 PTO horsepower. The Kubota lubricant line consists of a 15W-40 or 10W-30 engine oil and a universal transdrdraulic fluid called "UDT." A variety of sizes are available to meet your small and larger needs, in 1 quart, 2 gallon, 5 gallon and 55 gallon containers.

Next time you need to pour it on, pour it in with Kubota lubricants.

Kubota lubricants, tractor tough quality.

KUBOTA
Nothing like it on earth.™

12. WIRING DIAGRAM



KUBOTA Corporation is . . .

Since its inception in 1890, KUBOTA Corporation has grown to rank as one of the major firms in Japan.

To achieve this status, the company has through the years diversified the range of its products and services to a remarkable extent, until today, 19 plants and 16,000 employees produce over 1,000 different items, large and small.

All these products and all the services which accompany them, however, are unified by one central commitment. KUBOTA makes products which, taken on a national scale, are basic necessities. Products which are indispensable, products intended to help individuals and nations fulfill the potential inherent in their environment. For KUBOTA is the Basic Necessities Giant.

This potential includes water supply, food from the soil and from the sea, industrial development, architecture and construction, transportation.

Thousands of people depend on KUBOTA's know-how, technology, experience and customer service. You too can depend on KUBOTA.

KUBOTA

U.S.A.	KUBOTA TRACTOR CORPORATION 3401 Del Amo Blvd. Torrance CA 90503 U.S.A. Telephone (310)370-3370
	Western Division 6665 E. Hardaway Rd., Stockton, CA 95215 Telephone (209)931-5051
	Central Division 13780 Benchmark Drive Farmers Branch, TX 75234 Telephone (214)241-5900
	Northern Division 438 McCormick Blvd., Columbus, OH 43213 Telephone (614)868-1278
	Southeast Division 1025 NorthBrook Parkway, Suwanee, GA 30174 Telephone (404)995-8855
	Engine Division 1300 Remington Road, Suite K Schaumburg, IL 60173 Telephone (708)884-0212
Canada	KUBOTA CANADA LTD. 1495 Denison Street, Markham, Ontario, L3R 5H1, Canada Telephone (416)475-1090
	Richmond Distribution Center 2620 Viscount Way, Richmond, B.C. V6V 1N1 Telephone (604)270-9286
	Drummondville Distribution Center 5705 Place Kubota, Grantham Ouest (Drummondville), Quebec, J2B 6V4 Telephone (819)478-7151
France	S.A. KUBOTA EUROPE 19-25, rue Jules Vercey BP88-Z.I., 95101 Argenteuil Cedex, France
Germany	KUBOTA (DEUTSCHLAND) GmbH Senefelder Str. 3-5 63110 Rodgau / Nieder-Roden, Germany
U.K.	KUBOTA (U.K.) LTD. Dormer Road, Thame, Oxfordshire, OX9 3UN, U.K.
Australia	KUBOTA TRACTOR (AUSTRALIA) PTY., LTD. 9-23 King William Street, Broadmeadows, Victoria 3047 Australia
Malaysia	KUBOTA AGRICULTURAL MACHINERY SDN. BHD. Lot 14A, Jalan Perusahaan 4, Batu Caves Industrial Estate, 68100 Batu Caves, Selangor, Malaysia
Philippines	KUBOTA AGRI-MACHINERY PHILIPPINES, INC. 1031 Epifanio De Los Santos Ave. (EDSA) Quezon City, Metro-Manila, Philippines
Taiwan	SHIN TAIWAN AGRICULTURAL MACHINERY CO., LTD. 16, Fengping 2nd Road, Taliao Shiang Kaohsiung Hsien, 83107, Taiwan R.O.C.
Brazil	KUBOTA BRASIL LTDA. AV. Fagundes De Oliveira 900, Piraporinha-Diadema, São Paulo, Brazil
Iran	IRAN KUBOTA INDUSTRIAL WORKS, LTD. Mobarezan Ave., No 82, Alimoseo St., Teheran, Iran
Indonesia	P.T. KUBOTA INDONESIA JL. Setyabudi 279, Semarang, Indonesia
Thailand	THE SIAM KUBOTA INDUSTRY CO., LTD. 1 Siam Cement Road, Bangsue, Bangkok 10800, Thailand
Egypt	KUBOTA Corporation CAIRO LIAISON OFFICE 12th Floor, Nile Tower Bldg. 21-23 Guiza Street, Guiza, Egypt
Japan	KUBOTA Corporation Farm & Industrial Machinery International Operations Headquarters 2-47, Shikitsuhigashi 1-chome, Naniwa-ku, Osaka 556 Japan

英語(アメリカ)

Code No. 66091-6291-9

SUPPLEMENT

for KUBOTA T1600H

SUPPLEMENT

pour KUBOTA T1600H

■ Engine Cooling System

This mower is equipped with a liquid-cooled diesel engine. Take the following precautions to protect the engine from overheating.

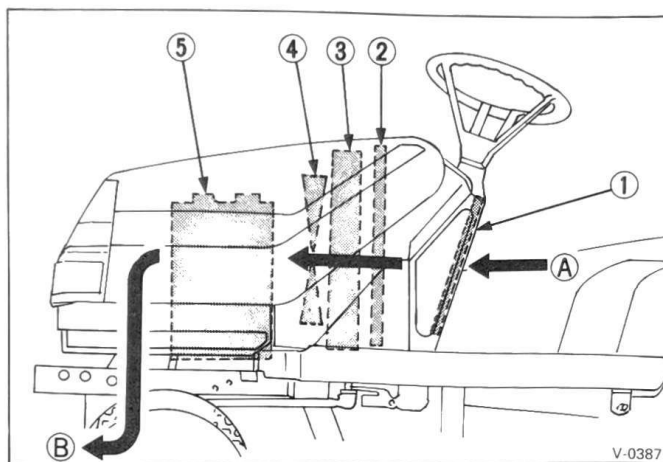
- (1) Cooling air is sucked through the air-intake screen of the panel into the radiator, as shown in the figure. Keep this screen clean off grass, dust and dirt, because otherwise enough air could not be let in, resulting in overheating.

■ Système de refroidissement du moteur

Cette tondeuse est équipée d'un moteur diesel refroidi par liquide. Prendre les précautions suivantes pour protéger le moteur contre une surchauffe.

- (1) L'air de refroidissement est aspiré par la grille du tableau de bord dans le radiateur, comme indiqué dans la figure. Veiller à ce que de l'herbe, de la poussière et de la saleté ne colmate pas cette grille faute de quoi suffisamment d'air ne pourrait pénétrer, ce qui entraînerait une surchauffe.

- ① Air intake screen
- ② Radiator screen
- ③ Radiator
- ④ Fan
- ⑤ Engine
- A "IN"
- B "OUT"



- ① Grille
- ② Grille du radiateur
- ③ Radiateur
- ④ Ventilateur
- ⑤ Moteur
- A "ENTREE"
- B "SORTIE"

- 1) Before mowing, open the bonnet and clean up the radiator screen and the inside of the panel.

IMPORTANT

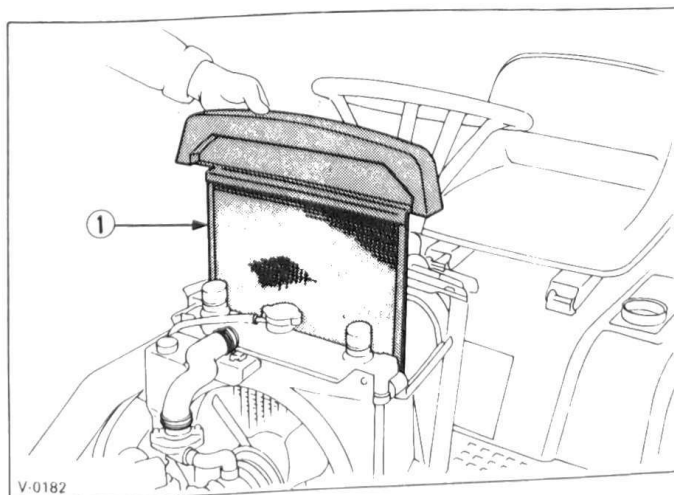
- Be sure to stop the engine before cleaning the radiator screen.
- 2) During the operation too, brush grass and dirt off the air-intake screen from time to time.

- 1) Avant la tonte, ouvrir le capot et nettoyer la grille du radiateur et l'intérieur du tableau de bord.

IMPORTANT

- Toujours arrêter le moteur avant le nettoyage de la grille du radiateur.
- 2) Pendant le fonctionnement, retirer de temps en temps l'herbe et la saleté de la grille.

- ① Radiator screen



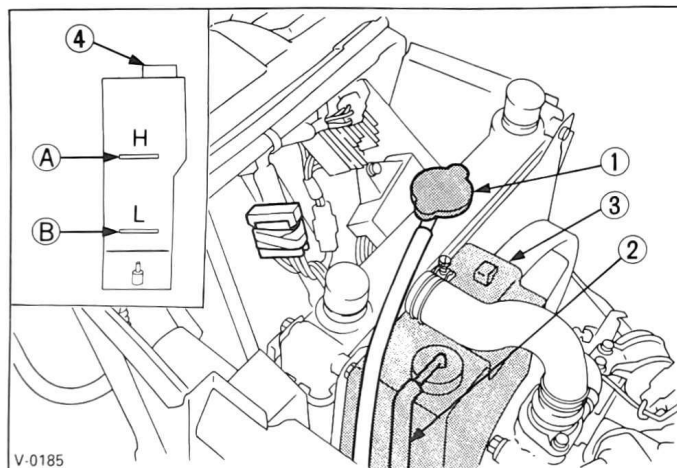
- ① Grille du radiateur

- (2) Before mowing when the engine is cold, be sure to open the bonnet and check the coolant level in the recovery tank. A shortage of coolant results in overheating.

When the coolant level is near the low marking, do the following: Unscrew the cap of the recovery tank, fill this tank up to the high marking with the coolant which is a mixture of water and anti-freeze in the ratio of 50 : 50, and tighten the cap securely.

- (2) Avant de tondre lorsque le moteur est froid, toujours ouvrir le capot et vérifier le niveau de liquide de refroidissement dans le vase d'expansion. Un manque de liquide serait la cause de la surchauffe. Lorsque le niveau de liquide de refroidissement est près du marquage inférieur, procéder comme suit; dévisser le bouchon du vase d'expansion, remplir ce vase jusqu'au marquage supérieur avec du liquide de refroidissement qui est un mélange d'eau et d'antigel dans un rapport de 50 : 50 et serrer le bouchon à fond.

- ① Radiator cap
- ② Over flow pipe
- ③ Recovery tank
- ④ Recovery tank cap
- A "HIGHEST LEVEL"
- B "LOWEST LEVEL"



- ① Bouchon de radiateur
- ② Tube de trop-plein
- ③ Vase d'expansion
- ④ Bouchon du vase d'expansion
- A "NIVEAU SUPERIEUR"
- B "NIVEAU INFERIEUR"

■ Coolant Temperature Meter and Alarm Buzzer

The coolant temperature meter is located in the instrument panel. The coolant temperature fluctuates depending on ambient temperatures and working loads. If the meter pointer comes over the red zone during operation, the overheat alarm buzzer sounds. Take the following steps.

- (1) Set the PTO of the mower to the OFF position.
- (2) Wipe the air-intake screen off grass and dirt by hand.
- (3) Run the engine idle until the meter pointer comes back to the center zone.
- (4) Stop the engine and check the coolant level in the recovery tank.
 - 1) When the coolant level is below the high marking, add the coolant, that is a mixture of water and anti-freeze in 50:50, up to the high marking.
 - 2) When there is no coolant left in the recovery tank, remove the radiator pressure cap and check to see that the coolant level is just below the port. If short, add coolant.



WARNING

- Do not unscrew the radiator cap until the coolant temperature comes down far below the boiling point. Then loosen the cap slightly to relieve excess pressure and remove the cap.

■ Thermomètre pour liquide de refroidissement et buzzer d'alarme

Le thermomètre pour liquide de refroidissement se trouve dans le tableau de bord. La température du liquide de refroidissement varie en fonction de la température ambiante et de la charge de travail. Si l'aiguille du thermomètre arrive dans la zone rouge pendant le fonctionnement, le buzzer d'alarme de surchauffe retentit. Procéder comme suit.

- (1) Mettre la prise de force de la tondeuse à la position DISENGAGE.
- (2) Essuyer la grille à la main pour retirer l'herbe et la saleté.
- (3) Faire tourner le moteur au ralenti jusqu'à ce que l'aiguille du thermomètre revienne dans la zone centrale.
- (4) Arrêter le moteur et vérifier le niveau de liquide de refroidissement dans le vase d'expansion.
 - 1) Lorsque le niveau du liquide de refroidissement est en dessous du marquage supérieur, ajouter du liquide de refroidissement qui est un mélange d'eau et d'antigel dans un rapport de 50 : 50 jusqu'au marquage supérieur.
 - 2) Lorsqu'il ne reste plus de liquide de refroidissement dans le vase d'expansion, retirer le bouchon de radiateur et vérifier si le niveau d'eau est juste en-dessous de l'orifice. S'il est trop bas, ajouter de refroidissement.



ATTENTION

- Ne pas dévisser le bouchon de radiateur tant que la température du liquide de refroidissement ne chute pas en dessous du point d'ébullition. Desserrer ensuite légèrement le bouchon pour libérer la pression en excès et retirer le bouchon.